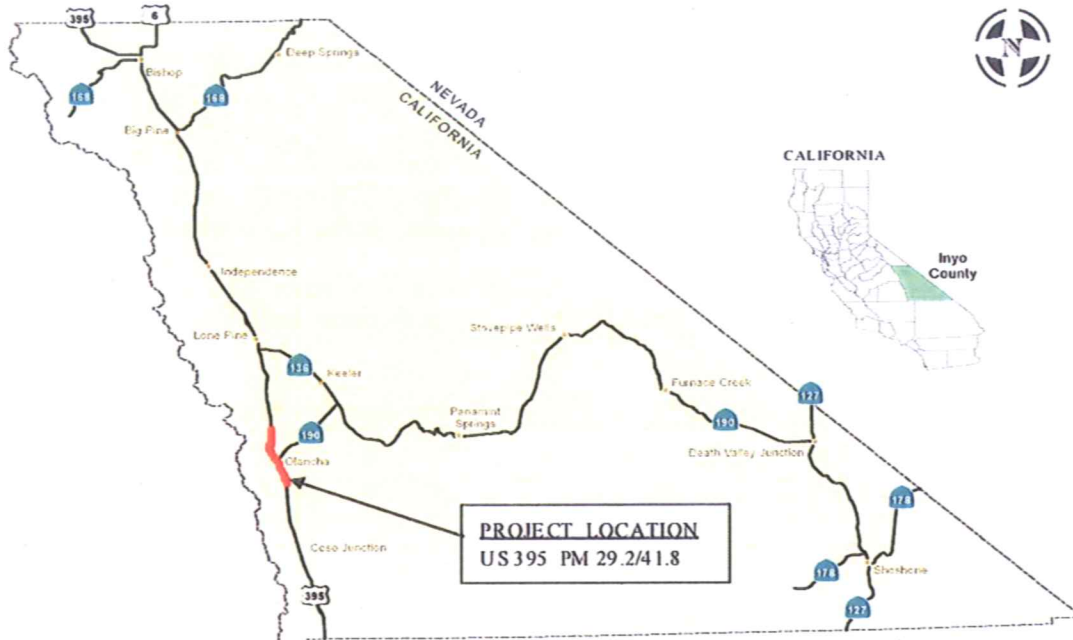




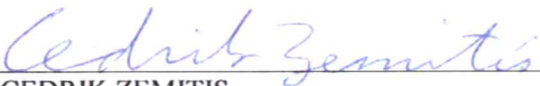
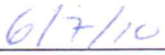


09-INY-395 PM 29.2/41.8  
06-229 EA 09-213400  
20.10.075.600 (RIP), 20.10.025.700 (IIP)  
May, 2010

## OLANCHA-CARTAGO FOUR-LANE EXPRESSWAY DRAFT PROJECT REPORT



On U.S. Highway 395 in Inyo County between 2.1 miles south of Los Angeles Aqueduct Bridge No. 48-010 and 0.2 miles south of Ash Creek Bridge No. 48-068R

I have reviewed the right of way information contained in this Draft Project Report and the R/W Data Sheet attached hereto, and find the data to be complete, current, and accurate:

	 _____ SPIROS KARIMBAS Division Chief, Right Of Way	 _____ DATE
APPROVAL RECOMMENDED:	 _____ CEDRIK ZEMITIS Project Manager	 _____ DATE
APPROVED:	 _____ THOMAS P. HALLENBECK District Director, District 09	 _____ DATE

This Draft Project Report has been prepared under the direction of the following Registered Civil Engineer. The registered Civil Engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

  
REGISTERED CIVIL ENGINEER

  
DATE



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## **1. INTRODUCTION**

The State of California, Department of Transportation, is proposing to upgrade U.S. Highway 395 (U.S. 395) from two-lane conventional highway to four-lane divided expressway, or a combination of four-lane conventional highway and divided expressway. The proposed project begins at PM 29.2, south of the community of Olancho, and ends at PM 41.8, north of the community of Cartago. The primary purpose of the project is to improve safety for the traveling public by separating opposing traffic, reducing access points, and widening existing shoulders. The project would also provide increased capacity, improve Level of Service by easing peak traffic congestion and reducing time spent following, improve drainage, and provide facility continuity between existing sections of four-lane divided expressway on either side of the proposed project. Five viable Build Alternatives and a No-Build Alternative are being considered. Alternative 4 is being used as the basis of programming for this document. The current estimated capital costs for Alternative 4 are \$95,400,000, which includes \$9,800,000 for right of way and \$85,600,000 for construction. The project is proposed to be funded in the State Transportation Improvement Program (STIP) through the Regional Improvement Program (20.10.075.600) and the Interregional Improvement Program (20.10.025.700), and is scheduled to begin construction in FY 2014/2015. This project falls under Project Development Category 1 because it will require access control, substantial new right of way, a Controlled Access Highway Agreement, and a Route Adoption by the CTC for the new route location.

## **2. RECOMMENDATION**

Approval is recommended for public circulation of the attached Draft Environmental Document and scheduling a public hearing during the circulation period. Approval is also recommended to authorize Caltrans to enter into a Cooperative Agreement with the County of Inyo for relinquishment of the existing highway.

## **3. BACKGROUND**

### **A. Project History**

The Olancho-Cartago Four-Lane Expressway project was initiated by the District 9 Transportation Planning Branch in 1998 with the support of the Inyo County Local Transportation Commission. A Project Study Report - Environmental Only (PSR-EO) was prepared for the project and was approved on January 22, 1999. The project was submitted during the 1998 STIP Augmentation as a jointly funded RIP/IIP project and was approved to begin Project Approval and Environmental Document (PA&ED) activities in FY 1999/2000. PA&ED activities were performed until April of 2004, when the project was deprogrammed to provide funding for the Blackrock Four-lane project. Funding was restored to the project in the 2006 STIP Augmentation and PA&ED activities resumed in August of 2007. In addition to the funds for PA&ED, the 2006 STIP Augmentation also provided additional funds for the PS&E component and new funds for R/W Capital and R/W Support. As a result, the development components for this project are currently fully funded.

The PSR-EO contained three original alternatives: converting the existing two lane highway to four-lane all-paved highway, constructing a new four-lane expressway adjacent to the existing alignment through Olancho, and constructing a new four-lane expressway to the west of Olancho. A subsequent Value Analysis study was performed in November, 1999, that developed two additional alternatives. Alternative 2A was a variation of Alternative 2 that avoided development in Cartago by moving the route to the west of the community. Alternative 3A was a variation of Alternative 3 that also avoided development in Cartago by continuing the route to the west of Cartago. The results from the Value



Analysis study were summarized in a Value Analysis Report that was issued in February, 2000. With the exception of a modified Alternative 2, each of these alternatives was presented in a Supplemental Project Study Report (SPSR) that was approved on June 29, 2007.

The original alignment for Alternative 2 was developed in a 1967 bypass study and traveled through the pasture area on the east side of Olancha. It was reevaluated in a 1988 Value Engineering study, which concluded that the alignment would be the least damaging to the Olancha community because it stayed east of the residents and businesses in the community. Due to this prior consideration, the original alignment was used for Alternative 2 in the approved PSR-EO. However, the Value Analysis Report completed in 2000 recommended that the alignment be constructed west of the existing alignment to avoid impacts to wetlands and old growth trees. As a result, the alignment was changed so that it crossed over to the west of the existing alignment near the junction with SR 190. This revised alignment for Alternative 2 was described in the approved 2007 SPSR.

The easterly alignment was reevaluated in a 2009 Jurisdictional Delineation Report, and the pasture area east of Olancha was determined to be wetlands that are contiguous to a jurisdictional body of water (the historic Owens Lake) and are fed by a protected water of the US (Olancha Creek). As such, they are potential jurisdictional wetlands that must be avoided without exception. As a result, the easterly alignment was officially abandoned by the Project Development Team and the revised alignment has been discussed in this Draft Project Report.

An additional alternative was developed in 2007 – Alternative 4 – that would construct new four-lane expressway on the west side of the Los Angeles Aqueduct. Alternative 4 is similar to Alternative 3A in that it bypasses both Olancha and Cartago, but will have less environmental impact and lower right of way costs due to its location on the alluvial fan above the communities. As a result, Alternative 3A was removed from consideration by the PDT in the summer of 2007 and replaced with Alternative 4. Alternative 4 was incorporated into the project alternatives in a Supplemental Project Study Report that was approved on November 17, 2008.

## **B. Community Interaction**

There have been three public information meetings held for this project since its inception in 1999. The first meeting occurred on April 10, 2000, and a total of 57 visitors attended the meeting. The second meeting took place on July 25, 2002, with a total of 52 visitors. A third meeting was held on December 3, 2008, which 81 people attended. All of the meetings were presented in an unstructured format allowing people to move around the room looking at displays depicting project information. Caltrans staff were present to answer questions and provide additional information and comment cards were provided to allow the attendees to comment on the alternatives. The third meeting also provided community surveys that the residents could complete regarding the perceived impacts to their communities.

The participation in these meetings has been generally positive and the comments received from these meetings have been consistent. The majority of participants prefer improving the existing alignment (Alternative 1) because they feel it will provide the greatest benefit to the communities of Olancha and Cartago. They feel that the other alternatives that bypass the communities would be a detriment to the communities because they would eliminate the few existing businesses remaining along U.S. Highway 395. Other common requests include reducing vehicle speeds, providing turn lanes and other improvements that would improve access along the highway and ensure that the businesses along the highway remain in operation; and not restricting access to the mountains to the west.

It may be possible to address some of these concerns in the eventual project, but others may not be feasible to address. For example, the right-of-way required to construct Alternative 1 could result in significant impacts to the businesses that Alternative 1 would presumably benefit. However, the median turn lanes and wider shoulders that would be constructed with Alternative 1 would improve access along the highway and could prove beneficial to the businesses that would remain. With the other alternatives, the access that would be retained and the reduction in traffic volume along the existing corridor could prove beneficial to the existing community. Mitigation measures could also be incorporated into the alternatives to mitigate their impact upon existing businesses; for example, new signage could be installed to inform motorists of services that would be available on the existing alignment. While speeds cannot be reduced to what the communities may believe is an appropriate speed, the facility would be designed such that the facility would be safer at existing and future speeds. Each alternative will also need to consider access to the west and may require specific structures to permit this access.

This project is an MOU project that will be jointly funded by Caltrans and the Inyo County Local Transportation Commission, Mono County Local Transportation Commission, and Kern Council of Governments. Caltrans has been in regular contact with each transportation agency as this project has been developed and each agency has recognized the value and importance of the project and has been supportive of the project. Caltrans has also participated in meetings with the Inyo County Board of Supervisors and Inyo County staff to discuss the proposed project. In order to provide more accurate information about project status and to obtain input on potential issues for the project, Caltrans has formed a working group of Inyo County officials and staff to discuss critical issues and develop potential solutions. There have already been two meetings of the group and significant issues such as design speed, right of way impacts, and relinquishment concerns have been discussed. Additional meetings of the working group are anticipated as the preferred alternative is selected and evaluated.

In order to obtain input from regional and interregional travelers into the proposed project, Caltrans developed a survey pamphlet to solicit their comments. The surveys were advertised in the local media and pamphlets were distributed to a variety of local establishments, such as visitor centers, chambers of commerce, and local businesses. Pamphlets were also distributed at several significant regional events, such as the Sierra Fishing Opener and Mule Days. Full response from these surveys will not be received prior to circulation of this Draft Project Report. The results and comments from the survey will be considered by Caltrans and the FHWA in the selection of the preferred alternative.

### **C. Existing Facility**

U.S. Highway 395 is the major element of a transportation corridor connecting the Eastern Sierra Region (Inyo and Mono Counties) and Western Central Nevada to the Southern California region. The corridor is one of eleven major inter-regional transportation corridors in California and is vital to the economy of the Eastern Sierra region, which imports nearly all of its goods and materials. It is also recognized as one of five major recreational corridors serving all of Southern California and experiences heavy recreational use, as evidenced by over ten million annual visitor-days of recreation. An Origination and Destination Study conducted in 2000 found that 55 % of the traffic on U.S. 395 was recreationally oriented and that recreation vehicles comprised 3.2% of the vehicle mix. It also found that 36% of the vehicles originated in Southern California.

Within the project limits, U.S. 395 is a two-lane undivided conventional highway. It traverses gently sloping terrain at elevations between 3500 and 3800 feet as it passes through the communities of Olancho and Cartago. There are several isolated businesses and residences along the highway, but in general, the highway corridor is rural in nature with relatively sparse development. An undivided

passing lane for northbound and southbound traffic currently exists between postmile 39.7 and 40.5. There is four-lane divided expressway on both the north (Ash Creek Four-Lane) and south (Sage Flat Four-Lane) sides of the project that will be connected by the eventual project.

Olancha and Cartago are both relatively small communities with less than 250 residents. Olancha is sparsely developed with a few businesses, a post office, a currently closed elementary school, and one service station/mini-mart. Cartago is located about three miles north of Olancha and is primarily a residential community. A water bottling plant is located between the two communities. Most of the development in the communities is away from the highway, but the communities rely upon U.S. 395 as their main street to travel within the community. The highway also serves as the primary access point for much of the private lands within the communities. As a result, the improvements proposed with this project could have significant impacts upon the communities.

The existing highway generally consists of two 12 foot lanes and 8 foot paved shoulders within 100 feet of right of way. There are no shoulder improvements such as curb, gutter or sidewalk throughout this section of the highway. There is no median and approximately 50 % of the highway is barrier striped to prevent passing. The posted speed limits vary from 65 mph outside of the communities to 55 mph within the communities. In addition to the intersection with State Route 190, there are six other public road connections and numerous other private roads and access points to the existing highway within the project limits.

In 2008, the Annual Average Daily Traffic (AADT) on U.S. 395 within the project limits was 5,600 vehicles per day. Goods movement along the corridor was also significant, with the percentage of truck traffic at 21.5 %. A pavement deflection study was conducted in April 2007 and data collected for the report was analyzed for structural adequacy, reflective crack retardation and ride quality. Due to a recent overlay, overall deflections resulted in tolerable results and roadway was determined to be structurally adequate. Since the 2007 study was relatively recent, an updated pavement deflection study was not performed for this report.

#### **4. PURPOSE AND NEED**

##### **A. Problem, Deficiencies, Justification**

The purpose of this project is to increase the safety of this section of U.S. 395, improve the Level of Service of U.S. 395 to its Concept Level of Service B, and provide four-lane route continuity with the adjacent Sage Flat and Ash Creek four-lane expressway sections.

Currently, this section of U.S. 395 is an undivided two-lane highway with no access restrictions. Due to numerous access points in the communities of Olancha and Cartago and limited sight distances, a majority of the highway does not allow passing. The posted speed limit has also been reduced within the communities, from 65 mph to 55 mph. There is a mix of slower recreational and commercial vehicles, local residential and business traffic, and faster passenger vehicles. Vehicles are traveling at higher speeds as they enter this section of highway from four-lane divided expressway on either side. All of these factors lead to queuing within the communities, driver frustration, and frequent unsafe passing maneuvers resulting in a fatal accident rate that is 1.5 times the statewide average.

A recent shoulder project completed in 2006 widened the existing shoulders from 4 feet to 8 feet. The project was designed to reduce head-on and cross-centerline accidents by providing more paved shoulder area for refuge to avoid oncoming drivers and errant vehicle recovery. The widening also

provided safer shoulders for bicyclists, pedestrians, and disabled and emergency vehicles. However, due to the lack of a median, there is still a high potential for serious cross-centerline accidents.

The concept Level of Service (LOS) for this section of U.S. 395 is LOS B, as recommended in the U.S. 395 Transportation Concept Report, dated May 2000. The existing facility is currently operating at LOS D, with a volume-to-capacity ratio of 0.41. This is especially evident during weekends and holidays when traffic volumes are higher. The increased volumes and the high percentage of trucks and recreational vehicles reduce passing opportunities and increase queuing behind slower moving vehicles. This increases driver delay and results in a higher percent time spent following (PTSF), which is the primary factor in the determination of the current LOS. Using an assumed traffic growth rate of 1 % per year, the LOS for this segment is projected to remain at LOS D until the construction year of 2015, but the volume-to-capacity ratio will rise to 0.43. Without improvements, the LOS will fall to LOS E by the year 2035 and the volume-to-capacity ratio is projected to increase to 0.51. Widening to four-lanes will eliminate the passing restrictions and reduce the time spent following, thereby restoring the LOS to A, as well as providing additional capacity. Recent and projected Levels of Service are presented in the table below:

	<i>2010</i>	<i>2015</i>	<i>2035</i>
<i>LOS (No Improvements)</i>	<i>D</i>	<i>D</i>	<i>E</i>
<i>LOS (4-Lane Expressway)</i>		<i>A</i>	<i>A</i>

With the construction of the Olancha/Cartago 4-Lane Project, the full length of U.S. 395 in Inyo County would be four lanes. With the exception of Alternative 1, construction of the project would bring this segment of U.S. 395 to current expressway standards. Alternative 1 would consist of a combination of conventional highway, conventional divided highway, and controlled access divided highway. All alternatives would provide facility continuity and, with the exception of Alternative 1, would meet the route concept for U.S. 395 in Inyo County.

The proposed four-lane project would increase safety for the traveling public by separating opposing traffic, removing passing restrictions, controlling access points, and providing adequate shoulder widths for disabled vehicles, bicycle traffic, pedestrian traffic, and emergency vehicle parking. The proposed four-lane project would also provide increased capacity to meet present and future traffic demands, and ease peak traffic congestion and time spent following in Olancha and Cartago, thereby improving the Level of Service of the facility to LOS A for the 20 year planning period. Finally, the proposed four-lane project would provide facility continuity and would ensure four-lanes for U.S. 395 throughout Inyo County.

## **B. Regional and System Planning**

U.S. Highway 395 is functionally classified as a Rural Principal Arterial and is part of the Federal Aid Primary (FAP) Highway System and the State Freeway and Expressway System. It is included in the Subsystem of Highways for the Movement of Extra Legal Permits Loads (SHELL) system, and is a Federal Surface Transportation Assistance Act (STAA) route that authorizes use by larger trucks and gives them access to facilities off the route. It is also recognized as a High Emphasis Focus Route in the Interregional Road System (IRRS) that connects transportation systems across four states. In Inyo County, U.S. 395 is part of the system of routes of statewide significance. It is included in the State Scenic Highway Master Plan and this portion is eligible for designation as State Scenic Highway.

As recommended in the U.S. 395 Transportation Concept Report, the concept facility for U.S. 395 in Inyo County is a four-lane expressway operating at LOS B. The District System Management Plan (DSMP) also recognizes U.S. 395 as one of two major transportation corridors in the District and lists the four laning of U.S. 395 as one of the top priorities in the District. With the completion of this project, a continuous four-lane section will be achieved on the U.S. 395 corridor from the junction of U.S. 395 and S.R. 14 in Kern County to north of Lee Vining in Mono County.

As the primary transportation route in Inyo County, U.S. 395 is discussed extensively in the 2009 Inyo County Regional Transportation Plan (RTP). The RTP includes stated goals to widen U.S. 395 to four lanes (Goal 3) and to maintain and improve roadway level of service (Goal 2) and the project is consistent with those goals. The RTP acknowledges the deficient level of service and the need for capacity increasing improvements in this segment of U.S. 395. The project is specifically identified in the list of Short Range Projects (Appendix 4E) in the Action Element of the RTP.

The importance of this project to the region is reflected in the Memorandum of Understanding between Caltrans and the Inyo County Local Transportation Commission, Mono County Local Transportation Commission, and Kern Council of Governments that will jointly fund this project. Each agency recognizes the value and importance of the project and has made this project a priority for completion in their planning activities. Inyo County, Mono County, the City of Bishop, and the Town of Mammoth Lakes all recognize the significance U.S. Highway 395 has to the region and support this project as well.

The Olancho and Cartago areas have perhaps the largest concentration of undeveloped private land in the Owens Valley and, depending upon the alternative selected, the project could have a significant impact on these private lands. Caltrans recognizes the value of these private lands for development in Inyo County, and some of the project alternatives were developed specifically to minimize the impact to these private lands. There is also a water bottling plant located in the center of the project that has plans to expand in two locations within the project limits. The locations of future buildings and access points to the state highway have been coordinated through the local planning process and through direct meetings with the developer to ensure that planned development is consistent with the proposed highway improvements.

Although there are no dedicated bicycle lanes on the current highway, U.S. 395 is recognized in the Inyo County Bikeways Master Plan as a Class II or Class III bicycle facility. While there are no plans to provide bicycle lanes in the proposed project, bicycling will be facilitated by the paved 10 foot shoulders and rumble strips that the project will construct. The wider highway facility proposed for the project will impact pedestrian, recreational, and agricultural uses that occur both along and across the existing highway. Where feasible, the project will incorporate box culvert undercrossings to provide safe access under the facility. The proposed relinquishments that would occur will also maintain the uses along the existing facility.

### **C. Traffic**

#### U.S. Highway 395

The table below provides a summary of current traffic data and projected traffic data for U.S. 395 in the design and construction years. The table is based on 2008 Traffic Volumes and the 2008 Annual Average Daily Truck Traffic (AADT). The Design Designation has been based upon scheduled construction beginning in 2015 and an assumed annual growth rate of 1.3%. A copy of the Traffic Report has been included as Attachment G.

**Olancha-Cartago Four-Lane Project  
Iny-395-PM 29.2/41.8**

	2008	2015	2025	2035
Average Annual Daily Traffic (AADT)	5600	6130	6980	7940
Design Hourly Volume (DHV)		1140	1290	1470
Directional Split (D)	73.6 %			
% Trucks	21.5 %			
10 Year Traffic Index (TI 10)			10.5	
20 Year Traffic Index (TI 20)				11.5
Design Speed (All-Pave) = 65 mph				
Design Speed (Expressway) = 75 mph				

There are three defined speed zones within the project limits. Speed Zone Surveys were performed in January, 2009, and the measured speeds for each zone are shown in the following table.

**Olancha-Cartago Four-Lane Project  
Iny-395-PM 29.2/41.8**

Zone	Post Mile	Direction	Pace (MPH)	85% (MPH)
65 MPH	29.2 – 33.9	N/B	72 - 81	82
		S/B	64 - 73	76
55 MPH	33.9 – 37.9	N/B	55 - 64	67
		S/B	53 - 62	65
65 MPH	37.9 – 41.8	N/B	63 - 72	74
		S/B	64 - 73	74

Accident data was compiled for the three year period between January 2006, and December 2008. There were 43 accidents during this time frame and a total accident rate of 0.52 Accidents/Million Vehicle Miles, which is lower than the statewide average for total accidents on a similar facility. However, the fatal accident rate during this time frame was 0.036 Accidents/MVM, which is 1.5 times the statewide average for fatal accidents on a similar facility. The accident data has been summarized in the table below.

**Olancha-Cartago Four-Lane Project  
Iny-395-PM 29.2/41.8**

Type and Number of Accidents		Accidents/MVM		
Fatal	3		Actual	Statewide Average
Injury	15	Fatal	0.036	0.024
Property Damage Only	25	Fatal + Injury	0.22	0.34
Total	43	Total	0.52	0.78

The predominant types of collisions were Hit Object (32.5%), Overturn (27.9%), Sideswipe (14.0%), and Rear End (14.0%). Head-on collisions amounted to 4.7 % of the accidents within the project limits. The primary factors in these collisions were Speeding (30.2%), Improper Turns (27.9%), and Other Violations (18.6%). 16.3 % of the accidents were related to passing.

There do not appear to be any concentrated accident locations within the project limits and there does not appear to be any correlation between accidents and weather, daylight, or pavement conditions. The high incidence of speeding and improper turns are believed to be a reflection of driver frustration and the frequent unsafe passing maneuvers that are occurring within this stretch of U.S. 395 and should be reduced significantly with the additional lanes and wider median that will be constructed with this project.

#### State Route 190

The table below provides a summary of current traffic data and projected traffic data for S.R. 190 in the design and construction years. The table is based on 2008 Traffic Volumes and the 2008 Annual Average Daily Truck Traffic (AADT). The Design Designation has been based upon scheduled construction beginning in 2017 and an assumed annual growth rate of 1.9%. A copy of the Traffic Report has been included as Attachment G.

#### **Olancha-Cartago Four-Lane Project Iny-190-PM 9.85/10.35**

	<b>2008</b>	<b>2015</b>	<b>2025</b>	<b>2035</b>
Average Annual Daily Traffic (AADT)	300	340	410	500
Design Hourly Volume (DHV)		70	80	100
Directional Split (D)	76.3 %			
% Trucks	14.6 %			
10 Year Traffic Index (TI 10)			7.5	
20 Year Traffic Index (TI 20)				8.0
Design Speed = 70 mph				

The posted speed on this segment of S.R. 190 is 65 miles per hour. The actual speeds were measured at PM 11.0, with a westbound 85<sup>th</sup> percentile speed of 73 mph and an eastbound 85<sup>th</sup> percentile speed of 72 mph. No collisions were recorded on this segment of S.R. 190 during a three year study period between January 2006 and December 2008. During this same study period, an intersection analysis was also prepared for the intersection of U.S. 395 and S.R. 190. While there were two accidents near this intersection, both accidents involved traffic on U.S. 395 and were not related to the intersection.

## 5. ALTERNATIVES

Five Build Alternatives and a No-Build Alternative have been considered for this project. The five Build Alternatives include the following:

- Alternative 1 – Combined controlled access divided expressway and all-paved conventional highway following the existing highway alignment.
- Alternative 2 – Controlled access divided expressway constructed adjacent to the existing highway.
- Alternative 2A – Controlled access divided expressway constructed adjacent to the existing highway through Olancho and passing west of Cartago.
- Alternative 3 – Controlled access divided expressway passing west of Olancho and adjacent to the existing highway through Cartago.
- Alternative 4 – Controlled access divided expressway passing west of both Olancho and Cartago.

### A. Common Features

Some of the features common to each alternative are discussed in the paragraphs below. Additional discussion and specific details relevant to each alternative will be provided in the descriptions of alternatives that follow in Section B.

#### Geometrics

Each alternative would construct a facility consisting of four 12-foot lanes separated by a median, but the median width would vary by alternative. The cross-slope of the lanes would also vary with each alternative. The outside shoulders would be 10 feet wide and would be sloped at five percent. Side slopes would be sloped at 4:1 or flatter and would extend out to at least 18 feet to a uniform catch point. The Clear Recovery Zone for all of the alternatives would be at least 30 feet, as measured from the edge of travelled way to any fixed object. Standard cross-sections have been prepared for the new facilities and have been attached to this report (Attachment D).

Wherever possible, new lanes would be constructed to provide a divided expressway facility. With the exception of Alternative 4, the new four-lane expressway would generally parallel the existing highway. In order to reduce cost and to minimize impacts, portions of the existing two-lane highway would also be incorporated into the new divided expressway. Those portions of existing highway that are not used would be modified for use as frontage roads and would be relinquished to Inyo County as local roads, or would be obliterated. In the case of Alternative 3 and Alternative 4, it would also be necessary to extend State Route 190 to meet the new alignment or redesignate a portion of existing U.S. 395 in order to provide route continuity for S.R. 190.

Existing intersections with S.R. 190 and County roads would be preserved and would remain as at-grade intersections. The intersections would be reconstructed and realigned as necessary to provide adequate sight distance and a suitable angle of intersection with the new alignment for U.S. 395. Additional at-grade intersections would also be provided at other significant locations, such as the Crystal Geyser Bottling Plant. Acceleration and deceleration lanes would be provided to facilitate access onto and off of U.S. 395. At-grade median cross-overs would also be provided at most intersections and at other appropriate locations to maintain reasonable access across the facility.



### Structural Section

The proposed structural section for the traveled way of new roadway would consist of 0.6 feet of Asphalt Concrete on 0.45 feet of Class II Aggregate Base. New shoulders would consist of 0.36 feet of Asphalt Concrete on at least 0.36 feet of Class II Aggregate Base. Portions of existing road to be incorporated into the new facility would receive an Asphalt Concrete Overlay. The depth of the overlay will be determined by a pavement deflection study to be performed during the PS&E phase. Typical Sections have been prepared for both new and rehabilitated roadway sections and have been included with this report (Attachment D).

### Structures

Each alternative will require a new bridge to carry the new southbound lanes across the Los Angeles Aqueduct. In the case of Alternative 4, additional bridges will be required to carry the northbound lanes and the extension of SR 190 across the Los Angeles Aqueduct as well. No work is anticipated for the existing bridge on U.S. 395 at the south end of the project. The bridges are anticipated to be relatively short (less than 70' long) and will be constructed with reinforced concrete on concrete spread footings. An Advanced Planning Study (Attachment M) was prepared to evaluate the preliminary designs and cost estimates for these new structures. The locations of proposed bridges will be discussed with each alternative.

Reinforced concrete box culverts are anticipated for the crossing of the N. Fork of Cartago Creek. Additional box culverts may also be required for the crossing of Olancha Creek (Alternatives 3 and 4) and two dry washes (Alternative 4). Several reinforced concrete box culverts would also be required to provide multi-purpose undercrossings under the proposed expressway facilities. The proposed undercrossings would be approximately 10 feet high by 10 feet wide and would span underneath the entire facility. Potential locations of the undercrossings will be discussed with each alternative.

### Drainage Improvements

The anticipated drainage improvements would primarily consist of installing pipe culverts, along with appropriate inlet and outlet structures and erosion protection measures. The sizes and locations of new culverts have not been determined pending a hydraulic analysis of the preferred alternative. In general, new culverts would be consistent with existing flow patterns, although some channels may be realigned to provide transverse crossings of the new facility as opposed to longitudinal crossings. Existing culverts would either be extended or replaced, as necessary, to accommodate the wider construction. New culverts may also be installed in the sections of existing highway to improve cross-drainage. All culverts would generally conform to existing flow lines.

### Nonstandard Features

Each alternative will be designed to meet or exceed minimum design standards and no mandatory or advisory design exceptions would be required.

### Park and Ride Facilities

The total population of Olancha and Cartago is less than 250 people and there are very few commuter trips that originate from the communities, so park and ride facilities are not applicable to this project.

### Utility Involvement

Existing utilities within the project area include underground fiber optic, telephone, and water, and overhead electric transmission and distribution lines. The amount of relocation that will be required will vary with the amount of existing highway that is incorporated into each alternative. The amounts of relocation have been estimated in the attached Right of Way Data Sheets (Attachment F). It is anticipated that all relocation will be accomplished during the PS&E phase.

In particular, there are overhead high voltage power lines in the northern portion of the project that could be potentially affected. They cross the proposed northbound lanes near PM 38.60 and the proposed southbound lanes near PM 39.80. The lines are carried on steel transmission towers or wooden H-poles and, as a minimum, several of the wooden H-poles would need to be relocated. Depending upon the alternative selected, it may also be necessary to relocate a steel transmission tower. A longitudinal encroachment exception would most likely be required as well due to the acute crossing angle (approximately 22 degrees) of the lines. It may also be necessary to adjust the vertical profile of the selected alternative in order to maintain the required vertical clearance per CPUC General Order 95.

#### Railroad Involvement

The proposed alternatives cross or are contiguous with a historic railroad corridor of the Southern Pacific Railroad Company in several locations. The corridor has been abandoned and the tracks and ties have been removed. However, the historic railroad grade and many of the crossing structures still remain. Each alternative would remove portions of the existing grade in varying amounts. Since the corridor is abandoned, it is anticipated that the needed portions would be acquired during PS&E as part of normal right of way acquisition. There would be no provisions to reconnect the portions of railroad grade that would be severed and their title would revert to the Bureau of Land Management.

#### Highway Planting

Most of the project travels through high desert terrain that is relatively sparsely vegetated. Existing native vegetation would be protected and preserved wherever possible. Special provisions for duff, seeding with punched straw, and erosion control blanket would be included in the project documents to promote reestablishment of native vegetation in disturbed areas.

Three of the alternatives will pass through the agricultural pasture areas immediately north of SR 190 (PM 34.7 – PM 35.6) and will remove a significant number of cottonwood trees. These trees have aesthetic value, provide nesting habitat for migratory birds, and are the primary plant in the Fremont Cottonwood series, a natural community of special concern. Replacement planting may be required to minimize impacts to the visual resources, migratory birds, and the natural community.

#### Erosion Control

Erosion control blankets, seeding with punched straw, and other measures will be provided to prevent erosion of newly completed slopes. Standard BMPs would be utilized during construction to prevent erosion and storm water impacts during construction. Permanent BMPs, such as contour grading and slope rounding would be incorporated into the project to prevent long-term erosion impacts. Rock slope protection, velocity dissipation devices, and other erosion control measures will be constructed at the outlets of drainage structures to prevent potential storm water damages and long term erosion.

#### Non-motorized facilities

As part of the divided expressway alternatives, the project proposes to construct reinforced concrete box culverts in at least one appropriate location to provide recreational and agricultural access under the new expressway lanes. In order to minimize the depth of excavation and the area required for approaches, the box culverts would be located in areas of fill or near existing incised channels. They would be constructed as close to existing aqueduct crossings as possible, but some additional grading would be required to connect to existing roadways or paths. Potential locations for the proposed undercrossings will be discussed with each alternative.

The California Complete Streets Act of 2008 required the Department to include complete street policies as part of planning, design and construction so that roadways will safely accommodate all users including bicyclists, pedestrians, transit riders, children, older people, and disabled people, as well as motorists. The 10-foot wide shoulders proposed in this project are consistent with the California Complete Streets Act of 2008. In addition, construction staging will be designed to allow for the passage of bicycles and pedestrians.

#### Roadway Rehabilitation

Each of the alternatives will incorporate portions of the existing highway into the completed facility. As part of a shoulder widening project completed in 2006, a surface treatment consisting of 0.10 feet of rubberized asphalt concrete was placed on the existing highway between PM 31.2 and PM 41.35. A subsequent pavement deflection study performed in 2007 determined that the existing structural section was adequate and recommended no rehabilitation treatment. In order to provide a smooth wearing surface, the project would install an additional asphalt concrete overlay on those portions of the existing highway that will be reused. A pavement deflection study will be performed prior to the completion of PS&E to determine the thickness of asphalt concrete overlay that will be required.

With the exception of Alternative 1, each alternative also contemplates relinquishing unused portions of existing highway to Inyo County for use as frontage road. A surface treatment will most likely be required to improve the surface quality and ride in these relinquished areas or otherwise bring the roadway to a “good state of repair,” as defined in the California Streets and Highway Code.

#### Phasing

Each alternative has the potential to be constructed in phased projects having both logical termini and independent utility. Because of its use of the existing highway, Alternative 1 would be the easiest to phase and could be dissected into whatever segment lengths are appropriate to budgetary constraints. Alternatives 2, 2A, and 3 can also be phased provided that the transition points are the termini of the phases. Because of its independent alignment and the need to extend SR 190 to the new alignment, Alternative 4 would be the most difficult alternative to phase.

While phasing may permit smaller portions of the overall project to be constructed in accordance with available funding, it should be noted that phasing would not be the most cost effective means to complete the overall project. With each partial solution phase, additional planning and mobilization costs will occur that will result in substantially more cost for overall project completion than if the project were completed in its entirety with one project.

### **B. Viable Alternatives**

#### **Alternative 1**

This alternative proposes constructing segments of conventional all-paved, conventional divided and controlled access four-lane divided highway. The new facility would follow the existing highway alignment, with the existing lanes being incorporated into the new facility. While this alternative would not bring the entire project up to expressway standards, it would still provide a facility meeting the purpose and need for the project. A preliminary layout and typical sections showing the proposed alignment are included as attachments to this report (Attachments C and D).

The proposed segments of this alternative are as follows:

- **Begin Work – 0.45 miles south of L.A. Aqueduct Bridge, #48-10 (PM 30.8)** Four-lane divided expressway. The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **0.5 miles south of Cactus Flat Road (PM 32.1)** Four-lane all-paved highway. The existing highway will be widened asymmetrically to the east.
- **0.1 miles south of SR 190 junction (PM 34.6)** Four-lane all-paved highway. The existing highway will be widened asymmetrically to the west.
- **0.9 miles north of SR 190 junction (PM 35.6)** Four-lane divided expressway. The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **0.3 miles south of Lake Street (PM 37.3)** Four-lane all-paved highway. The existing highway will be widened asymmetrically to the west.
- **0.6 miles north of Whitney Street (PM 38.4)** Four-lane divided expressway. The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **2.3 miles north of Whitney Street (PM 40.1)** Four-lane divided expressway. The existing lanes will be rehabilitated for use as southbound lanes and new northbound lanes will be constructed to the east.
- **End Work – 0.2 miles south of Ash Creek Bridge, #48-11 (PM 41.8)**

The four-lane all-paved highway would consist of four 12-foot lanes and 10-foot outside shoulders, with the northbound and southbound lanes separated by a 14-foot paved median. The new facility would be widened asymmetrically to conform to existing environmental and right of way constraints. In particular, the segment north of SR 190 would be widened to the west to avoid jurisdictional wetlands that exist in the irrigated pasture lands to the east. Access would not be controlled and the paved median would be delineated for turning movements, which would allow the existing access through the corridor to be preserved. Due to the access considerations, the all-paved segments would be designated as conventional highway and would be designed for a 65 mph design speed. Initially, the speed limit would be posted for 55 mph. Future speed limits would be determined by engineering and traffic studies.

The four-lane divided highway would consist of four 12-foot lanes, with 5-foot inside shoulders and 10-foot outside shoulders. The new lanes would be constructed parallel to the existing lanes and would be separated by at least a 100-foot unpaved median. In the segments on the north and south sides of the project, access from the side would be controlled to existing intersections and other significant access points and access across the facility would be restricted to at-grade median cross-overs. The segment of divided highway between PM 35.6 and PM 37.3 would not have controlled access and would be designated as conventional highway. The four-lane divided highway would meet expressway standards and would be designed for a 75 mph design speed. Similar to the sections of expressway on either side of the project, the initial speed limit would be posted for 65 mph. Future speed limits would be determined by engineering and traffic studies.

This alternative uses the existing highway and would be constructed largely at grade, so there would be limited opportunity for adjustments in horizontal and vertical alignment. The existing curve at PM 37.2 is not sufficient for expressway standards and will need to be reconstructed, but otherwise the new alignment will follow the existing horizontal alignment. Similarly, the vertical profile would only be changed appreciably near PM 40.0 to improve sight distance. In addition, the roadway cross-slopes in the new facility would vary due to conforming to the existing roadway.

There are two structures associated with this alternative. A reinforced concrete bridge would be built near PM 31.3 and would carry the new southbound lanes across the Los Angeles Aqueduct. A new reinforced concrete box culvert may also be required near PM 37.30 and would carry the N. Fork of Cartago Creek under the new facility. Due to the additional right of way required and to maintain consistency with the existing corridor, no undercrossings are proposed with this alternative.

The un-escalated cost for Alternative 1 is provided below. The total cost includes the cost of Right of Way Capital and Construction Capital, but does not include the costs for Right of Way Support or Construction Support. The escalated costs for the programmed year of Construction are provided in the Programming Section of this report. A copy of the preliminary estimate has been included with this Report (Attachment E).

<b>Alternative 1 – Estimated Cost (2010)</b>	
Roadway	\$ 49,000,000
Structures	\$ 1,000,000
R/W Acquisition	\$ 10,100,000
Utility Relocation	\$ 8,000,000
<b>TOTAL</b>	<b>\$ 68,100,000</b>

(Amounts in March, 2010 dollars)

## **Alternative 2**

This alternative proposes constructing a controlled access four-lane divided expressway throughout the project. In Olancho, the new expressway facility would follow the existing highway alignment, but would be constructed adjacent to the existing highway. Through Cartago and north to the end of the project, the new expressway would still follow the existing alignment, but would incorporate the existing lanes into the new facility. This alternative would provide the ultimate concept facility for U.S. 395. A preliminary layout and typical sections showing the proposed alignment are included as attachments to this report (Attachments C and D).

The proposed segments of this alternative are as follows:

- **Begin Work – 0.45 miles south of L.A. Aqueduct Bridge, #48-10 (PM 30.8)** The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **1.1 miles south of Cactus Flat Road (PM 31.5)** New northbound and southbound lanes will be constructed to the east of the existing highway.
- **0.3 miles south of SR 190 junction (PM 34.4)** New northbound and southbound lanes will be constructed to the west of the existing highway.
- **0.3 miles south of Lake Street (PM 37.3)** The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **2.3 miles north of Whitney Street (PM 40.1)** The existing lanes will be rehabilitated for use as southbound lanes and new northbound lanes will be constructed to the east.
- **End Work – 0.2 miles south of Ash Creek Bridge, #48-11 (PM 41.8)**

The four-lane divided expressway would consist of four 12-foot lanes, with 5-foot inside shoulders and 10-foot outside shoulders. The northbound and southbound lanes would be separated by at least a 100-foot unpaved median. Access from the side would be controlled to existing intersections and other significant access points and access across the facility would be restricted to at-grade median cross-overs. With controlled access and divided lanes, the traveling speeds are anticipated to be higher, so the new expressway facility would be designed for a 75 mph design speed. Similar to the sections of expressway on either side of the project, the initial speed limit would be posted for 65 mph. Future speed limits would be determined by engineering and traffic studies.

This alternative would be constructed parallel to the existing highway. However, construction of a new facility would allow the improvement of the existing horizontal alignment with larger radius curves. The facility would again be constructed largely at-grade, with the only major adjustment in vertical profile occurring at the passing lanes near PM 40.0 to provide additional sight distance. The new construction would also provide consistent roadway cross-slopes.

The existing highway would be extended along the new alignment to SR 190 and would be converted to frontage road between PM 31.9 and PM 37.1. With connections at major intersections and at either end, the frontage road would serve as a collector road to the new expressway. It would also preserve the existing uses and access on the southwest and northeast sides of Olancha. Once the project is completed, the frontage road would be relinquished to Inyo County.

Access to the new expressway could be provided at existing intersections with State Route 190 and several Inyo County roads: Cactus Flats Road, Walker Creek Road, Fall Road, School Street, Lake Street, and Whitney Street. The intersections could be reconstructed and realigned to conform to the new facility. Access to parcels abutting the existing highway could be provided from the proposed frontage road, existing dirt roads, and other significant access points.

There are several structures associated with this alternative. A reinforced concrete bridge would be built near PM 31.30 and would carry the new southbound lanes over the Los Angeles Aqueduct. Two reinforced concrete box culverts may also be required near PM 37.30 to carry the N. Fork of Cartago Creek under the new expressway. Two reinforced concrete box culverts are also proposed near PM 38.30 and would serve as multi-purpose undercrossings under the new expressway. Minor grading would be required to construct a new dirt road to connect to existing dirt roads nearby.

The un-escalated cost for Alternative 2 is provided below. The total cost includes the cost of Right of Way Capital and Construction Capital, but does not include the costs for Right of Way Support or Construction Support. The escalated costs for the programmed year of Construction are provided in the Programming Section of this report. A copy of the preliminary estimate has been included with this Report (Attachment E).

<b>Alternative 2 – Estimated Cost (2010)</b>	
Roadway	\$ 58,800,000
Structures	\$ 2,000,000
R/W Acquisition	\$ 9,600,000
Utility Relocation	<u>\$ 9,100,000</u>
<b>TOTAL</b>	<b>\$ 79,500,000</b>

(Amounts in March, 2010 dollars)

## **Alternative 2A**

This alternative is similar to Alternative 2 and proposes constructing a controlled access four-lane divided expressway throughout the project. In Olancha, the new expressway facility would still follow the existing highway alignment, but would be constructed adjacent to the existing highway. Instead of passing through Cartago, though, this alternative would pass to the west of Cartago and then return to the existing alignment. This alternative would also provide the ultimate concept facility for U.S. 395. A preliminary layout and typical sections showing the proposed alignment are included as attachments to this report (Attachments C and D).

The proposed segments of this alternative are as follows:

- **Begin Work – 0.45 miles south of L.A. Aqueduct Bridge, #48-10 (PM 30.8)** The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **1.1 miles south of Cactus Flat Road (PM 31.5)** New northbound and southbound lanes will be constructed to the east of the existing highway.
- **0.3 miles south of SR 190 junction (PM 34.4)** New northbound and southbound lanes will be constructed to the west of the existing highway.
- **0.9 miles north of SR 190 junction (PM 35.6)** New northbound and southbound lanes will be constructed to the west of the existing highway and will pass west of Cartago.
- **0.8 miles north of Whitney Street (PM 38.6)** The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **2.3 miles north of Whitney Street (PM 40.1)** The existing lanes will be rehabilitated for use as southbound lanes and new northbound lanes will be constructed to the east.
- **End Work – 0.2 miles south of Ash Creek Bridge, #48-11 (PM 40.8)**

As with Alternative 2, this alternative would be constructed parallel to the existing highway through Olancha. Beginning at PM 35.6, the alignment would diverge from the existing highway as it passes to the west of Cartago and then return to the existing highway near PM 38.6. Due to this diversion, this alternative would require a significant change in vertical profile as it climbs the alluvial fan to the west of Cartago. The diversion also makes this alternative longer by about 0.3 miles.

The existing highway would still be converted to a frontage road, but the frontage road would extend further to the north of Cartago to join the new alignment, which would preserve the existing uses and access through Cartago as well. The length of frontage road that would be relinquished to Inyo County would be increased to 6.2 miles. The number of access points to the new expressway would be reduced by one as the intersections at Lake Street and Whitney Street would now connect to the frontage road. An additional access point would be provided south of the Crystal Geyser Bottling Plant to improve their access to the new expressway.

The number of structures required for this alternative would be the same as Alternative 2. However, the western alignment would cause the box culverts required for the N. Fork of Cartago Creek and the proposed multi-purpose undercrossings to be relocated to the west. Additional grading would be required to restore access between the relocated undercrossings and the existing dirt roads in the area. An alternative location would be available for the undercrossings on the southwest side of Cartago.

The un-escalated cost for Alternative 2A is provided below. The total cost includes the cost of Right of Way Capital and Construction Capital, but does not include the costs for Right of Way Support or Construction Support. The escalated costs for the programmed year of Construction are provided in the Programming Section of this report. A copy of the preliminary estimate has been included with this Report (Attachment E).

<b>Alternative 2A – Estimated Cost (2010)</b>	
Roadway	\$ 61,500,000
Structures	\$ 2,000,000
R/W Acquisition	\$ 9,200,000
Utility Relocation	\$ 3,900,000
<b>TOTAL</b>	<b>\$ 76,600,000</b>

(Amounts in March, 2010 dollars)

### **Alternative 3**

This alternative is also similar to Alternative 2 and would construct a controlled access four-lane divided expressway throughout the project. Rather than following the existing highway, the proposed alignment would pass to the west of Olancho and return to the existing alignment south of Cartago. Through Cartago and north to the end of the project, the new expressway would follow the existing alignment and would incorporate the existing lanes into the new facility. This alternative would also provide the ultimate concept facility for U.S. 395. A preliminary layout and typical sections showing the proposed alignment are included as attachments to this report (Attachments C and D).

The proposed segments of this alternative are as follows:

- **Begin Work – 0.45 miles south of L.A. Aqueduct Bridge, #48-10 (PM 30.8)** The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **0.5 miles south of Cactus Flat Road (PM 32.1)** New northbound and southbound lanes will be constructed to the west of the existing highway and will pass west of Olancho.
- **0.3 miles south of Lake Street (PM 37.3)** The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **2.3 miles north of Whitney Street (PM 40.1)** The existing lanes will be rehabilitated for use as southbound lanes and new northbound lanes will be constructed to the east.
- **End Work – 0.2 miles south of Ash Creek Bridge, #48-11 (PM 41.8)**

Beginning at PM 32.1, the alignment for this alternative diverges from the existing highway as it passes to the west of Olancho and then returns to the existing highway near PM 37.3. Due to the diversion, this alternative would require a significant change in vertical profile as it climbs the alluvial fan west of Olancho. It would also require that S.R. 190 be extended approximately 0.7 miles to meet the proposed alignment or that a portion of existing U.S. 395 be retained and redesignated as S.R. 190. The diversion makes this alternative about 0.2 miles longer.



The existing highway would be converted to frontage road, but the frontage road would begin near PM 37.3 and extend south of Olancha to join the proposed alignment near PM 32.4. The length of frontage road that would be relinquished to Inyo County would be reduced to 4.8 miles. The number of access points to the new expressway would be reduced by five as several of the access points in the Olancha area would now connect to the frontage road. Access would still be provided at the existing intersections with Lake Street and Whitney Street in Cartago.

This alternative would be near the Los Angeles Aqueduct, which would help to protect the project from major storm flows. However, the proximity of the western alignment to the aqueduct would most likely require additional drainage culverts to handle the more concentrated flows that would occur at the overchute structures that pass storm water flows across the aqueduct.

The number of structures and location of structures required for this alternative would change due to the western alignment. Rather than being distributed through several irrigation channels, the crossing of Olancha Creek would occur at one location in an incised channel and could require reinforced concrete box culverts. Box culverts would still be required for the crossing of the N. Fork of Cartago Creek and the proposed multi-purpose undercrossings north of Cartago. An alternative or additional location for multi-purpose undercrossings would also be available near Olancha Creek.

The un-escalated cost for Alternative 3 is provided below. The total cost includes the cost of Right of Way Capital and Construction Capital, but does not include the costs for Right of Way Support or Construction Support. The escalated costs for the programmed year of Construction are provided in the Programming Section of this report. A copy of the preliminary estimate has been included with this Report (Attachment E).

<b>Alternative 3 – Estimated Cost (2010)</b>	
Roadway	\$ 58,400,000
Structures	\$ 2,000,000
R/W Acquisition	\$ 7,300,000
Utility Relocation	<u>\$ 1,300,000</u>
<b>TOTAL</b>	<b>\$ 69,000,000</b>

(Amounts in March, 2010 dollars)

#### **Alternative 4**

This alternative would construct a controlled access four-lane divided expressway for the entire length of the project. The new expressway would be constructed west of the Los Angeles Aqueduct and would pass to the west of both Olancha and Cartago. It would return to the existing highway north of Cartago and continue to follow the existing alignment to the end of the project, incorporating the existing lanes into the new facility. This alternative would also provide the ultimate concept facility for U.S. 395. A preliminary layout and typical sections showing the proposed alignment are included as attachments to this report (Attachments C and D).

The proposed segments of this alternative are as follows:

- **Begin Work – 1.4 miles south of L.A. Aqueduct Bridge, #48-10 (PM 29.9)** The existing lanes would be rehabilitated for use as northbound and southbound lanes.
- **1.3 miles south of L.A. Aqueduct Bridge, #48-10 (PM 30.0)** New northbound and southbound lanes will be constructed to the west of the existing highway and will pass west of Olancha and Cartago.
- **1.3 miles north of Whitney Street (PM 39.1)** The existing lanes will be rehabilitated for use as northbound lanes and new southbound lanes will be constructed to the west.
- **2.3 miles north of Whitney Street (PM 40.1)** The existing lanes will be rehabilitated for use as southbound lanes and new northbound lanes will be constructed to the east.
- **End Work – 0.2 miles south of Ash Creek Bridge, #48-11 (PM 41.8)**

This alternative would construct a four-lane divided expressway similar to Alternatives 2, 2A, and 3. However, the location of the facility would be much higher on the alluvial fans west of Olancha and Cartago. As a result, there would be substantial changes from the existing profile and considerably more earthwork. The proposed alignment would also be about 1.5 miles longer and would require that S.R. 190 be extended approximately 1.1 miles to meet the proposed alignment or that a portion of existing U.S. 395 be retained and redesignated as S.R. 190. Due to the increases in length and earthwork, this alternative has the highest cost of all alternatives.

The existing highway would be converted to frontage road. The frontage road would begin near PM 30.4 and continue north along the existing alignment to join the proposed alignment north of Cartago. The length of frontage road that would be relinquished to Inyo County would increase to 7.6 miles. The number of access points to the new expressway would be reduced to only three – the intersection with SR 190 and the southern and northern termini of the frontage road – and all existing roads would connect to the proposed frontage road.

This alternative would be west of the Los Angeles Aqueduct and would be exposed to potential flash flooding from the multitude of washes that exist on the alluvial fan. As a result, a significantly larger drainage network would be required to protect the roadway from potential flooding. It may even be necessary to construct drainage channels along the western boundary of the roadway to intercept and collect major storm flows.

This alternative would also require substantially more structures. Two bridges would be required to carry the southbound and northbound lanes across the Los Angeles Aqueduct west of Cartago. An additional bridge may also be required for the extension of SR 190 across the Los Angeles Aqueduct. There would be a substantial increase in the number of box culverts. At least two multi-purpose undercrossings would be constructed and additional undercrossings may also be required to provide access for migrating deer. The proposed locations for box culverts are shown below:

PM	Description
31.3	Dry Wash
32.0	Dry Wash
34.7	Olancha Creek
36.6	S. Fork Cartago Creek
37.6	N. Fork Cartago Creek
38.5	Multi-purpose undercrossing
34.7	Multi-purpose undercrossing (alternative site)

The un-escalated cost for Alternative 4 is provided below. The total cost includes the cost of Right of Way Capital and Construction Capital, but does not include the costs for Right of Way Support or Construction Support. The escalated costs for the programmed year of Construction are provided in the Programming Section of this report. A copy of the preliminary estimate has been included with this Report (Attachment E).

Alternative 4 – Estimated Cost (2010)	
Roadway	\$ 80,600,000
Structures	\$ 5,000,000
R/W Acquisition	\$ 8,200,000
Utility Relocation	\$ 1,600,000
TOTAL	\$ 95,400,000

(Amounts in March, 2010 dollars)

### **No Build Alternative**

The “No Build” Alternative would leave this segment of U.S. 395 in its current configuration as a two-lane conventional highway. This would not address the project purpose and need to increase safety, improve level of service, and provide four-lane route continuity. As traffic volumes increase, the level of service will continue to deteriorate and the number of accidents would be expected to continue to increase. As a result, this alternative is not recommended.

### **Comparison of Alternatives**

Each of the five build alternatives would meet the project purpose and need of increasing safety, improving Level of Service, and providing four-lane continuity. However, Alternative 1 would not be as effective as the other alternatives due to the minimal median width and the uncontrolled access that would be available. Alternative 4 would be the most effective alternative due to the limited access points and construction to the west of the existing communities.

From an environmental standpoint, Alternative 1 would be the most attractive alternative due to its use of the existing highway. Because of the width of the new facility and construction of new lanes, all of the divided expressway alternatives would have greater environmental impact. Alternatives 2 and 2A would increase the impact through the Olancho corridor, and would have a high impact on the existing cottonwood trees and agricultural development. Because of the amount of new construction on undeveloped lands, Alternatives 2A and 3 would have even higher impacts and would require greater mitigation lands for impacts to the Mohave Ground Squirrel and the Desert Tortoise. Each alternative would have the potential to impact archaeological resources, but Alternatives 3 and 4 would have the greatest impact due to existing burial sites that are within their footprint. Due to the length of new construction and amount of excavation that would be required, Alternative 4 would have the highest amount of environmental impact and would impact resident deer herds in addition to the ground squirrel and tortoise.

Based on right of way considerations, Alternatives 3 and 4 are the most attractive alternatives because of their location on undeveloped public lands, which are considerably cheaper and easier to obtain. Alternative 4 would be located almost entirely on lands owned by the Bureau of Land Management

and the State of California, but would require considerably more lands and would require greater mitigation lands due to its added length. Alternative 2A would require significant right of way through the Olancho corridor, but would pass through undeveloped private lands west of Cartago. Since a majority of the land abutting the existing highway is private, Alternatives 1 and 2 would have the greatest right of way impact. All of the divided expressway alternatives would require less utility relocation because of the frontage road that would allow existing utilities to remain in place.

Due to the amount of private land and development along the existing highway, Alternatives 1 and 2 would have the greatest impact on the existing communities. Alternative 1 would require a narrower corridor, but would still result in significant impacts to parcels adjacent to the corridor due to the higher speeds and proximity of traffic to the parcels. Alternative 1 would also result in the greatest construction impacts due to the staging that would be required to rehabilitate the existing lanes. The width of facility constructed under Alternative 2 would cause a major impact in the southeastern and northwestern portions of Olancho, but would have less impact in Cartago due to limited development on the west side of the highway. The wider expressway facility would also divide the communities and reduce recreational access to the west. Alternative 2A would have the same impacts in Olancho, but the alignment west of Cartago would eliminate impacts and improve safety along the existing corridor in Cartago. Similarly, Alternative 3 would preserve the existing corridor and improve safety for residents in Olancho. Alternative 4 would have no impacts on the existing corridor through the communities. Alternatives 3 and 4 would have the least amount of physical impact to the existing corridor, but could result in economic impacts due to relocating traffic away from existing businesses. The frontage road that would remain could mitigate some of these impacts and would also retain the existing uses and character of the corridor.

### **C. Rejected Alternatives**

#### **Alternative 3A**

As noted in the Project History Section, Alternative 3A was developed as a result of a Value Analysis Report (VAR) that was prepared for this project. This alternative would have passed to the west of both Olancho and Cartago, but would have stayed on the east side of the Los Angeles Aqueduct. However, private development had increased along the proposed alignment for Alternative 3A since it was developed in 2000. Since Alternative 4 would have served the same purpose and would not require the take of the recently developed land, Alternative 4 was chosen over Alternative 3A. In addition, Alternative 3A would have had significantly higher noise and traffic impacts due to its proximity to the communities. As a result, Alternative 3A was rejected by the Project Development Team in the summer of 2007 in favor of Alternative 4.

#### **Alternative 2R**

As discussed in the Project History Section, this alternative was the original alignment for Alternative 2 that was developed in early bypass studies and was included in the 1999 PSR-EO. It would have followed the same alignment as Alternative 2, except that the alignment would have continued past SR 190 (PM 34.6) on the east side of the existing highway up to about PM 35.6, where it would have crossed back over to the west of the existing highway. Since this alignment would significantly reduce the right of way impacts, the cost of construction, and some of the environmental impacts in northwestern Olancho, it was reevaluated during the consideration of alternatives for this project. After further study, though, the pasture lands north of SR 190 and east of the existing highway were determined to be wetlands that were contiguous to a jurisdictional body of water and this alternative was removed from consideration.

## **6. CONSIDERATIONS REQUIRING DISCUSSION**

### **A. Hazardous Waste**

An Initial Site Assessment (ISA) was performed for the project and was completed January 9, 2007. The ISA was updated on June 15, 2009 and was recently updated again on March 17, 2010. Between the ISA and the subsequent updates, a total of 266 parcels within the Area of Potential Effect have been investigated for hazardous waste issues and eight parcels have been identified that have the potential for hazardous waste problems. Four of these parcels have histories of hazardous waste problems and the others have the potential to have hazardous waste problems. Preliminary Site Investigations (PSIs) have not been performed for the sites, but would be performed in the event that the sites would be affected by the preferred alternative.

There are at least six former gas stations within the project limits that have either been abandoned or removed. One of these stations was removed recently and is an active clean-up site with an ongoing remediation operation. The site would not need to be acquired, but the pollutants from the site extend under the adjacent highway. Under agreement with the Regional Water Quality Control Board, only the polluted soils encountered during construction would need to be removed and Caltrans would not be required to remediate the entire plume. The presence of underground tanks or extents of potential contamination at the remaining stations is not known at this time. However, since these stations have been out of operation for some time, the likelihood of finding significant levels of contamination is low. Historically, sites of this age in the Owens Valley have only required underground fuel tank removals and have not required site remediation due to the non-caustic nature of the soils as well as the dispersal of the pollutants over time. As a result, the additional costs for removal and cleanup at each site are anticipated to be minimal.

### **B. Value Analysis**

A Value Analysis (VA) study was performed for this project and was completed in February, 2000. The VA study evaluated six potential alternatives. The alternatives that were considered included:

- Alternative 1.1 – This alternative would have constructed northbound lanes around the eastern side and southbound lanes around the western side of the towns, with the existing highway being used as a “business route”. This alternative was not implemented.
- Alternative 1.2 – This alternative would have realigned the new expressway lanes to the west of Cartago, following the existing railroad alignment. This alternative was implemented and resulted in Alternative 2A and Alternative 3A, both of which are discussed in Section 5.
- Alternative 1.3 – This alternative would have realigned Alternative 2 farther to the east of the existing highway and would have transitioned back to the west near the Ranch House Café. This alternative was not implemented.
- Alternative 2.1 – This alternative would have reduced the median width for Alternative 2 to 60 feet and would have realigned Alternative 2 to the west of the existing highway from Fall Road to the north. The median width reduction was not implemented, but the realignment to the west was implemented in Alternative 2, which is discussed in Section 5.
- Alternative 2.2 – This alternative would have reduced the median width for Alternative 2 and Alternative 3 to 60 feet. This alternative was not implemented.
- Alternative 3.0 – This alternative would have incorporated a rest stop area into the project near the intersection of U.S. 395 and S.R. 190. This alternative was not implemented.

### C. Resource Conservation

Each alternative would incorporate portions of the existing highway into the completed facility. As a minimum, Alternative 4 would rehabilitate 2.8 miles of existing roadway, while Alternative 1 would rehabilitate the entire length of existing highway. Using the existing highway will reduce the amount of work required to construct a suitable structural section and will reduce the amount of materials that would be needed to complete the project. The reduction in materials would also reduce the associated amount of trucking that would be required to deliver materials to the project. Asymmetric widening would be considered where possible so that the new roadway would conform to the existing roadway, which would reduce the amount of trim and replacement materials that may be required. Those portions of existing highway that may need to be reshaped may also be cold-foam recycled, which would allow reshaping of the roadway cross-section with existing roadway materials.

Portions of the existing highway that would not be rehabilitated would be obliterated. The resulting pulverized materials could potentially be used in fills or as shoulder backing materials, which would reduce the amount of materials that would otherwise be required. If there are no suitable uses for the pulverized materials, they may be stockpiled for use in future projects or maintenance activities.

Material Site 290, located at the western end of Fall Road, would be designated as a local source of borrow and aggregate materials. This would conserve resources by significantly reducing the amount of materials that would need to be delivered to the project and the distance that materials would need to be hauled. It would also conserve the materials that are available at existing commercial sources for other projects and uses.

### D. Right of Way Issues

The amounts of right of way required for each alternative have been estimated by the Caltrans Right of Way Branch. The right of way findings have been summarized in the table below and discussed in the following paragraphs.

#### ESTIMATED RIGHT OF WAY REQUIREMENTS

ALTERNATIVE	1	2	2A	3	4
<b>Total New Right of Way (Acres)*</b>	130	257	320	271	517
<b>Total Disturbed Parcels *</b>	108	137	74	81	46
<b>Residences Affected **</b>	7	6	7	4	1
<b>Businesses Affected **</b>	5	9	8	3	0
<b>Mitigation Lands (Acres)***</b>	645	804	837	805	888
<b>Utility Relocation Costs (Millions)*</b>	8.0	9.1	3.9	1.3	1.6

\* Information taken from Right of Way Data Sheets, dated 3/16/10 (Attachment F)

\*\* Information taken from Relocation Impact Study, dated 5/7/08 (Attachment N)

\*\*\* Information taken from Mitigated Negative Declaration/Environmental Assessment, dated 8/24/10

#### Alternative 1

Alternative 1 is estimated to require approximately 130 acres of new right of way. This alternative basically widens the existing highway corridor through the communities of Olancha and Cartago, disturbing an estimated 108 parcels of both private and public ownership. There are seven homes and five businesses that may need to be relocated; in particular, the Ranch House Café and Gus' Jerky may need to be relocated. The Olancha branch of the U.S. Post Office may also be impacted and appropriate right of way procedures would be followed to address any potential impacts. As a minimum, provisions would be included in the project to ensure that there is no interruption of mail service due to the project. To mitigate for environmentally sensitive resources, this alternative is estimated to require an additional 558 acres of suitable habitat lands. This alternative has relatively high costs for relocation of utility facilities, a majority of which run parallel to the existing highway.

#### Alternative 2

Alternative 2 has been estimated to require approximately 257 acres of new right of way. Similar to Alternative 1, this alternative also uses the existing corridor through the communities of Olancha and Cartago. However, this alternative requires a wider corridor at its southeastern and northwestern ends and is estimated to disturb 137 parcels of both private and public ownership. There are six homes and nine businesses that may need to be relocated; in particular, the Ranch House Café, Gus' Jerky, and an existing warehouse would all need to be removed. The Olancha branch of the U.S. Post Office would also be impacted and appropriate right of way procedures would be followed to address any potential impacts. As a minimum, provisions would be included in the project to ensure that there is no interruption of mail service due to the project. This alternative is estimated to require 621 acres of suitable habitat lands to mitigate for environmentally sensitive resources. Due to the wider corridor on the southern and northern ends, this alternative affects a larger amount of utility facilities. As a result, this alternative has the highest estimated right of way cost of all alternatives.

#### Alternative 2A

Alternative 2A is estimated to require 320 acres of new right of way. The increase in right of way is primarily due to the alignment of the new lanes to the west of Cartago. However, since these lanes pass through several larger and undeveloped parcels, the number of parcels that would be disturbed by this alternative would be significantly reduced to only approximately 74 parcels. One additional home on the west side of Cartago may be impacted and a total of seven homes and eight businesses may need to be relocated. The Olancha branch of the U.S. Post Office would need to be removed with this alternative as well. To mitigate for environmentally sensitive resources, this alternative is estimated to require an additional 621 acres of suitable habitat lands. The additional frontage road that would remain through Cartago would also reduce the amount of affected utility facilities.

#### Alternative 3

Alternative 3 is estimated to require 271 acres of new right of way. This alternative travels west of Olancha through a small subdivision and several larger parcels, and would disturb approximately 81 parcels. The larger parcels are undeveloped and are owned by public and government agencies. As a result there are only four homes and three businesses that may need to be relocated. To mitigate for environmentally sensitive resources, this alternative is estimated to require an additional 624 acres of suitable habitat lands. Once again, the frontage road that would remain through Olancha reduces the amount of utility facilities that would need to be relocated.

#### Alternative 4

Alternative 4 is estimated to require 517 acres of new right of way. The route to the west of the Los Angeles Aqueduct primarily passes through large undeveloped parcels owned by the Bureau of Land Management and the State of California. As a result, this alternative would disturb only 46 parcels

and may require the relocation of only one home. Due to the added length of the western alignment, this alternative would have the greatest amount of disturbance and is estimated to require 1,234 acres of suitable habitat lands to mitigate for environmentally sensitive resources. Besides the high power transmission lines north of Cartago, this alternative would require minimal utility relocation.

## **E. Environmental Issues**

The appropriate environmental document for this project will be a Mitigated Negative Declaration / Environmental Assessment (MND/EA). The MND/EA will be prepared in accordance with Caltrans' standard environmental procedures, as well as State and federal environmental regulations, and the Federal Highway Administration (FHWA) and Caltrans will act as lead agencies in the preparation of the document. A Draft MND/EA (Attachment A) has been prepared and is expected to be approved for circulation by July 2010. The final MND/EA and the final Project Report are anticipated to be approved in November 2011. Based upon the findings in the Draft MND/EA, the project has the potential to significantly impact the following environmental resources:

### Wetlands and Waters of the U.S.

A Draft Jurisdictional Delineation Report was completed in June 2009. The report determined that there are three wetland areas and a multitude of Other Waters of the U.S. and Culvert Waters of the U.S. that are potentially jurisdictional. Whenever possible, the jurisdictional areas will be designated as Environmentally Sensitive Areas and will be avoided. It may be necessary, though, to construct new or replace existing drainage structures to convey these waters under the new facility. In these cases, protective wetland mats, seasonal restrictions, and other construction measures are anticipated to mitigate impacts to these areas.

### Cultural Resources

Extensive cultural resources are present throughout the Area of Potential Effect and could be affected by the project. Phase II investigations have not been completed for all of the alternatives at this time, but would be completed for the preferred alternative to better identify the resources that are present. An Environmentally Sensitive Area Action Plan would be implemented to protect eligible resources from potential construction impacts. If resources cannot be avoided, requirements for mitigation would be established through a Memorandum of Agreement between FHWA and the State Historic Preservation Officer, pursuant to the Section 106 Programmatic Agreement.

### Paleontological Resources

A preliminary survey of the project site identified the potential for paleontological resources in the project area that might be affected by project excavation. In general, the probability of encountering fossils in shallow excavations is relatively low. However, excavations of more than a few feet could potentially affect paleontological resources. As a result, excavations for structures and in the material site would require further studies to determine if mitigation may be required. As a minimum, a well designed paleontological resource mitigation plan would be required to minimize any adverse impacts to paleontological resources.

### Biological Resources

There are several biological species of concern that could be affected by the project:

- Fremont Cottonwood. There are mature Fremont cottonwood trees along U.S. 395 that would be removed with Alternatives 1, 2, or 2A. In order to minimize impacts to visual resources, migratory birds, and the Fremont Cottonwood natural community, trees that are removed may be replaced.



- Special-status plant species. All alternatives would affect the endangered Owens Valley checkerbloom and Parish's popcorn-flower. Alternative 2A would directly affect the pygmy poppy. Alternative 4 would affect the crowned muilla. Both Alternatives 2 and 2A would directly affect Sanicle cymopterus. The project would include provisions for collection and redistribution of duff, which would minimize impacts to special-status plant species.
- Alkali Skipper and Owens Valley Vole. All of the alternatives would remove wetlands that could provide habitat for both the Alkali Skipper and Owens Valley vole. Surveys will be performed prior to construction to determine the presence of the Alkali Skipper and the Owens Valley vole. The project would include provisions to mitigate impacts to wetlands to ensure no net loss of habitat for the Alkali Skipper and the Owens Valley vole.
- Yellow Warbler and Least Bell's Vireo. The project could temporarily remove nesting habitat for yellow warblers and Least Bell's Vireo. Surveys will be performed prior to construction to determine the presence of nesting birds. Riparian areas affected by the project would be restored to mitigate potential long term impacts to nesting habitat.
- Mule Deer. Alternative 4 could impact wintering range that is used by deer in the Monache herd. If Alternative 4 is selected, additional undercrossings may be required to mitigate impacts to migrating deer.
- Desert Tortoise and Mohave Ground Squirrel. The project is located within the habitat range of the endangered desert tortoise and endangered Mohave ground squirrel. All alternatives would affect both desert tortoise and Mohave ground squirrel through construction related activities that could either cause injury or mortality to the animals or could cause loss and destruction of their habitat. The impacts to desert tortoise and Mohave ground squirrel would be mitigated by purchasing mitigation lands. The project Special Provisions would include provisions for worker education programs, biological monitors, temporary and permanent tortoise fencing, and possible trapping of Mohave ground squirrels.
- Sierra Nevada Bighorn Sheep. The project would not have a direct impact on Sierra Nevada Bighorn Sheep, but Alternative 4 could affect the sheep indirectly, as the alignment runs parallel to critical habitat for the sheep. If Alternative 4 is selected, a qualified biologist may be required to ensure that construction activities do not affect Bighorn Sheep.

#### Socio-economic resources

The project could affect the communities of Olancho and Cartago. Alternatives 1, 2, and 2A would have the greatest potential impacts due to development that has occurred along the existing corridor. Relocation assistance would be provided for those businesses and residences that would be affected. With the wider corridor and removal of existing features, the aesthetic character of the corridor would be affected as well. Currently, there are no community centers or significant gathering places within the communities and most of the social activity occurs at individual homes. The wider corridor that the project would construct would disrupt this circulation within the communities and could disrupt the community cohesion that currently exists. The open spaces that exist around the communities are popular recreation areas, and the project alternatives could affect access to these recreation areas. The proposed undercrossings would maintain access to the recreational areas to the west.

#### Visual Impacts

The primary visual impacts would be a result of disturbance and removal of native vegetation during construction of the roadway prism. These impacts would be temporary and would be mitigated with the use of slope rounding in cuts, grading to a uniform catch point, collection of duff and topsoil for replacement in disturbed areas, and applying native seed mixes on completed slopes. Native trees and shrubs that are removed may be replaced with seeding and new plants. The replacement plants would

be strategically located to blend with and enhance the existing vegetation that remains and to restore the visual quality of the project area. When possible, structures would also use materials, colors, and textures that would blend with the adjacent natural landscape components.

#### Noise

A Noise Study was performed for the project that evaluated 45 representative locations for potential noise impacts. The projected future noise levels were determined for each alternative and, in general, the project would not result in significant noise impacts. There were several receptors, however, that would experience substantial noise increases. Noise abatement was considered for these receptors, but was not found to be feasible and reasonable. The results of the noise abatement analysis are discussed in Section 6I below. There would be temporary noise impacts from construction activities as well. Construction measures such as temporary noise barriers, noise monitoring programs, and time restrictions would be implemented to minimize construction noise impacts.

### **F. Water Quality Considerations**

A Long Form Storm Water Data Report has been prepared for the project (Attachment H). Owens Dry Lake, Olancho Creek, and Cartago Creek have all been identified as significant water bodies within the project limits. There are no 303(d) listed Receiving Water Bodies within the project limits. The Lahontan Regional Water Quality Control Board has jurisdiction within the project limits. No seasonal construction restrictions are anticipated.

In order to minimize impacts from stormwater runoff, the project will require a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would be prepared by the contractor and would identify the appropriate best management practices that would be implemented and maintained throughout construction to reduce pollutants in stormwater discharges.

Stormwater is currently directed to the east of the existing highway via existing drainage structures. In general, the completed project would continue to direct stormwater to the east. The volume of stormwater runoff would increase because of the additional paving that would be constructed, but the increase would not exceed available capacity downstream. The project would also include design pollution prevention BMPs such as slope protection, flow conveyance systems, and preservation of existing vegetation. Concrete headwalls and flared end sections would be included for all culverts, as appropriate. Erosion control measures would be installed at the outlet of extended and new culverts to diffuse stormwater flows and reduce their erosive potential. These improvements would minimize potential stormwater impacts and ensure that there is no reduction in the quality of stormwater runoff from the completed project.

### **G. Air Quality Conformity**

The air quality regulations in Inyo County are administered by the Great Basin Unified Air Pollution Control District. Inyo County is an attainment area under both State and federal standards for carbon monoxide (CO) and fine particulate matter (PM<sub>2.5</sub>). For ozone (O<sub>3</sub>), it is a non-attainment area under state standards, but an attainment area under federal standards.

The project limits are within a non-attainment area for suspended particulate matter less than 10 microns (PM<sub>10</sub>), primarily because of windblown dust from the Owens Dry Lake. Great Basin Unified Air Pollution Control District has prepared a state implementation plan that addresses the windblown dust from the dry lake. It does not include measures to reduce PM<sub>10</sub> from unpaved or paved roads because roads are not considered a significant contributor to the PM<sub>10</sub> problem. There

have been significant dust events in the planning area, though, that were related to fugitive dust from construction activities along U.S. 395. As a result, the project will be subject to district rules for controlling fugitive dust during construction. The dust control measures required under the Standard Specifications would minimize any air quality impacts due to dust emissions during construction. Additional measures would be included in the project Special Provisions to further minimize air quality impacts from dust emissions and other sources of air pollution. There are no long-term impacts to air quality that would result from the project.

The project alternatives are fully compatible with the design concept and scope described in the 2009 Inyo County Regional Transportation Plan, which the Inyo County Local Transportation Commission has determined to be consistent with the State Implementation Plan (SIP) for air quality.

## **H. Title VI Considerations**

In accordance with Caltrans' Title VI Policy, no person would be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination during the development and construction of this project on the grounds of race, color, sex, or national origin. The project would not discriminate against any private landowners within or adjacent to the project limits and would benefit all people regardless of race, color, sex, or national origin.

## **I. Noise Abatement Decision Report**

As noted above, the noise study determined that there were several receptors that would experience substantial noise impacts. The noise study evaluated potential noise abatement measures for each impacted receiver and concluded that only one soundwall would be feasible to construct. The cost of the recommended soundwall was compared to reasonable allowances for the benefited receivers and it was concluded that the recommended soundwall was not reasonable to construct. As a result, noise abatement measures would not be required for this project. The Noise Abatement Decision Report, which summarizes the noise considerations for the project and presents the preliminary noise abatement decision, is included with this report. (Attachment P)

## **7. OTHER CONSIDERATIONS AS APPROPRIATE**

### **A. Public Hearing Process**

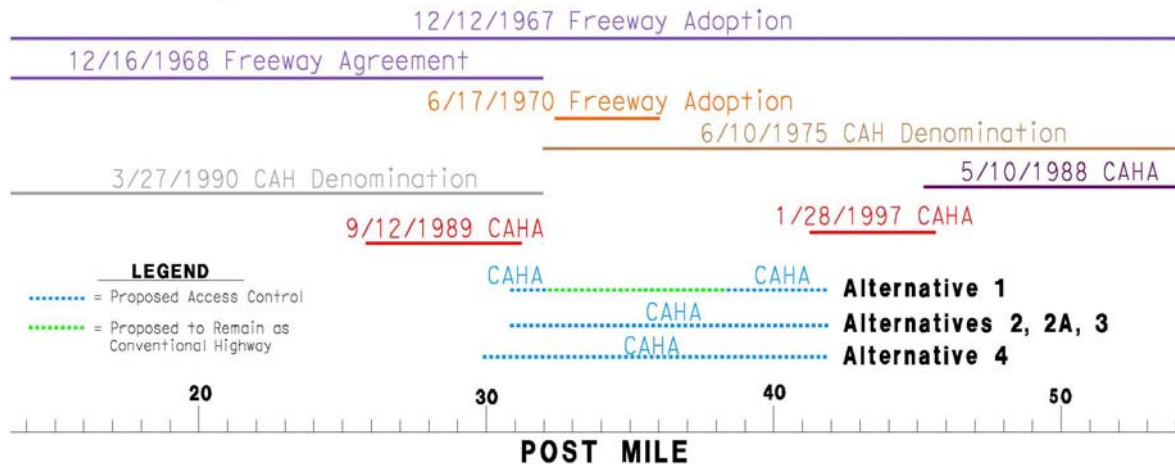
This Draft Project Report and the Draft Environmental Document will be available for public review. A public hearing is recommended during the circulation of the Draft Environmental Document to present the developed viable alternatives and to receive public comment on the Draft Environmental Document and the proposed project.

### **B. Route Matters**

#### U.S 395 Route Matters

There are two Freeway Adoptions and two subsequent Controlled Access Highway Denominations in place for U.S. Route 395 within the project limits. There are also two Controlled Access Highway Agreements in place on either side of the project. All alternatives would require a Controlled Access Highway Agreement for U.S Route 395. The route matters for U.S. Route 395 have been graphically depicted in the chart below.

## Graphical History of U.S 395 Route Matters



### Previous Adoptions - U.S. Route 395

- 12/12/1967 – 0.5 miles north of Cinder Road to 1.6 miles south of Route 136, Freeway Adoption, 42 miles.
- 6/17/1970 – 2.3 miles south of existing Route 190 to 1.6 miles north of existing Route 190, Freeway Adoption, 3.6 miles.
- 6/10/1975 – 2.7 miles south of Route 190 to 1.6 miles south of Route 136, denominated as a Controlled Access Highway by the Director of Transportation, 22.3 miles.
- 3/27/1990 – 0.5 miles north of Cinder Road to 2.7 miles south of Route 190, denominated as a Controlled Access Highway by the Director of Transportation, 18.5 miles.

### Previous Agreements – U.S. Route 395

- 12/16/1968 – 0.5 miles north of Cinder Road to 2.7 miles south of Route 190, Freeway Agreement, 18.5 miles.
- 9/12/1989 – 3.6 miles south of Sage Flat Road to 1.8 miles north of Sage Flat Road, Controlled Access Highway Agreement, 5.4 miles.
- 1/28/1997 – 2.4 miles south of Ash Creek road to 0.6 miles south of Cottonwood Road, Superseding Controlled Access Highway Agreement, 4.3 miles.

The current alignment of U.S. 395 was constructed with 2 consecutive projects in 1928 and 1929. A formal Route Adoption does not exist for the original construction. On December 12, 1967, a 42 mile Freeway Adoption was approved for U.S. Route 395 that delineated the future freeway generally in the location of the current highway. However, the adopted freeway alignment differs from the current highway alignment through Olancho and Cartago. The 1967 Freeway Adoption delineated the future freeway diverging east from the existing alignment at about PM 31.97, passing to the east of Olancho, crossing the existing alignment at about PM 35.9, passing to the west of Cartago, and then rejoining the existing alignment near PM 38.04. This freeway was never constructed. On June 17, 1970, a subsequent Freeway Adoption was approved by the California Highway Commission confirming the same freeway alignment as the 1967 Freeway Adoption through Olancho and Cartago from PM 32.4 to PM 36.3. This freeway was never constructed as well.

Within the project limits, U.S. Route 395 was denominated as a Controlled Access Highway by the Director of Caltrans on June 10, 1975, and also on March 27, 1990. These denominations removed the freeway designation, but did not rescind or supersede the alignment delineated by the previously approved Freeway Adoptions. As a result, all alternatives will require a new Route Adoption for U.S. 395. Due to the separation of the proposed southbound and northbound lanes north of Cartago, the new adoptions would return to the existing alignment near PM 40.06. Because of their added length, the adopted route for Alternatives 2, 2A, 3 and 4 would be longer than the existing route.

<b>U.S. 395 – PROPOSED ROUTE ADOPTIONS</b>		
<b>ALTERNATIVE</b>	<b>BEGIN</b>	<b>END</b>
1	PM 31.97	PM 40.06
2	PM 31.54	PM 40.06
2A	PM 31.54	PM 40.06
3	PM 31.97	PM 40.06
4	PM 30.04	PM 40.06

Each alternative would also require a Controlled Access Highway Agreement (CAHA) between the State and Inyo County. Alternative 1 would require the shortest length, between PM 30.83 and PM 32.16 where access control would be extended north, and between PM 38.37 and PM 41.92 where access control would be extended to the south. Alternative 1 would also require that portions of the existing highway be redesignated as conventional highway. Alternatives 2, 2A, 3, and 4 would require CAHAs of varying lengths, but would result in a Controlled Access Highway for the entire project. Since a Controlled Access Highway Denomination already exists throughout the project limits, no redesignation would be required for these alternatives.

#### Relinquishments

This project will require two forms of relinquishment: relinquishment by superseding with new State highway, where the existing U.S. Route 395 would become a local frontage road; and relinquishment of collateral facilities, where portions of local roads that must be altered would be relinquished back to Inyo County.

In those areas where new divided expressway would be constructed, portions of the existing highway would be relinquished to Inyo County as frontage road. In accordance with State policy, this would eliminate a parallel and redundant State facility. It would also provide Inyo County with a local route that could preserve the existing access and uses along the existing corridor. The State would pursue a Cooperative Agreement (CA) with Inyo County to define the roles of the parties and the conditions for relinquishment. The CA would be entered into prior to approval of the Project Report (PA&ED) and would serve as a formal agreement to accept the relinquished facilities. Pursuant to Section 73 of the Streets and Highway Code, formal relinquishment would be accomplished through a Controlled Access Highway Agreement with Inyo County. A corresponding Route Adoption would also be required where there is relinquishment by supersession with a new State highway.

The length of relinquishment by superseding with new State highway varies between each alternative. The current estimates are shown in the table below.

<b>Miles of Relinquishment by “Superseding with new State Highway”</b>					
Alternative	1	2	2A	3	4
Miles of Relinquishment	0	5.3	6.2	4.8	7.6

Each alternative would require modifications to existing County roads that would be relinquished to Inyo County as collateral facilities. Alternatives 2 and 2A would require construction of a cul-de-sac to the west of U.S. Route 395 between PM 34.5 (Shop Street) and PM 34.6 (south of S.R. 190) and extensions of the existing highway adjacent to the proposed alignment. Alternative 2A would also require extensions from the existing highway to the proposed alignment south of the Crystal Geyser Bottling Plant and on the north side of Cartago. Alternative 3 would require realignment of Fall Road to coincide with the new intersection with S.R. 190. Alternative 4 would require an extension of the existing highway to the proposed alignment north of Cartago. In order to support connectivity and maintain traffic circulation within the communities, other collateral facilities, not identified at this time, may be constructed and relinquished to Inyo County. All relinquishments of collateral facilities would be accomplished through the Controlled Access Highway Agreement with Inyo County.

#### S.R. 190 Route Matters

There are two Route Adoptions that cover State Route 190 within the project limits. Alternatives 3 and 4 would require that S.R. 190 be extended to meet the new alignment. Alternatively, a portion of existing U.S. 395 could be retained and redesignated as S.R. 190. In either case, a Route Adoption would be required for the change in alignment of S.R. 190 and a Route Redesignation would be required to relocate the terminus of S.R. 190. S.R. 190 would remain a conventional highway with no formal access control.

#### **Previous Adoptions – State Route 190**

- 4/15/1964 – Between Haiwee Pass and junction of Route 23 (395) near Olancha, Route Adoption.
- 6/22/1966 – Between Route 395 near Olancha and Route 136, Route Adoption, 15 miles.

#### **Previous Agreements – State Route 190**

- None

### **C. Material Sites**

The project would develop Material Site 290 (MS 290) as a source of all imported borrow, aggregate base, asphalt concrete, and portland cement concrete materials to be used in construction. MS 290 is located at the end of Fall Road on the west side of the Los Angeles Aqueduct and south of Olancha Creek. The material site would be acquired from the Bureau of Land Management through a DOT easement. An estimated 250 acre-feet of material would be mined and the area of disturbance within the material site would be approximately 60 acres. Coordination would be required with the BLM and the District SMARA coordinator to ensure that use of the site is approved and that requirements of SMARA are met. Coordination would also be required with Inyo County to establish any conditions that may be required for use of Fall Road and the bridge crossing the aqueduct. Any conditions for development and operation of the site would be included in the project documents.

## **D. Permits**

A National Pollutant Discharge Elimination System (NPDES) general construction permit for storm water discharges would be required from the Lahontan Regional Water Quality Control Board. To assure compliance with the requirements of the NPDES permit, the Standard Special Provision for Water Pollution Control, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP), would be included in the final project documents.

Other permits that are anticipated to be required include:

- U.S. Fish & Wildlife Service, Section 7. Formal consultation would be required for potential adverse impacts to threatened and endangered species.
- State of California, Department of Fish & Game, Section 2081, Incidental Take Permit. An Incidental Take Permit would be required to mitigate impacts to threatened and endangered species.
- State of California, Department of Fish & Game, Section 1602, Streambed Alteration Permit. A Streambed Alteration Permit would be required for any work within existing streams and riparian channels.
- U.S. Army Corps of Engineers, Section 404. A Nationwide Permit would be required for discharge of dredged and fill materials into Waters of the United States.
- Lahontan Regional Water Quality Control Board, Section 401, Clean Water Permit. A Clean Water Permit would be required for construction activities in and adjacent to waterways.
- State Historic Preservation Officer, Section 106 Effect and Memorandum of Agreement. The Section 106 Effect and Memorandum of Agreement documents anticipated impacts to historical resources and the associated measures required to mitigate the impacts.
- Inyo County, Encroachment Permit. An Encroachment Permit would be required from Inyo County for any improvements to existing County roadways.
- Permits from various property owners providing authorization to collect fossils found during construction.

## **E. Transportation Management Plan**

A Transportation Management Plan has been prepared for this project (Attachment K). Brochures, media releases, public meetings, and internet websites will be used to keep the public informed on construction progress and information relating to delays, closures, and major changes in traffic patterns. The District 9 Public Information Officer would be responsible for coordinating media releases and updating relevant project information.

A Construction Zone Enhanced Enforcement Program (COZEED) may be required during certain construction operations of this project. The COZEED provides for continuous presence of California Highway Patrol officers in the construction zone to remind travelers to use caution while traveling through the work zone.

Standard traffic control procedures would be required to provide safe passage through the work zone. Standard construction area signs and devices would be used to alert motorists in advance of entering the construction area. Standard Special Provisions, Lane Closure Plans, and other appropriate plans would be included in the project documents to ensure traffic safety throughout the project. Further traffic management measures may also be implemented for unusual and unplanned circumstances, and would be determined on an individual basis.

## **F. Stage Construction**

Staging would be used where required during construction of the project. In general, new facilities would be constructed first so that traffic could be shifted onto the new lanes. The existing lanes would then either be rehabilitated or removed. Once work on the existing lanes was complete, traffic could then be shifted onto the proper alignments. Consideration would be provided at all times for local streets and access so that disruption to residences and businesses would be kept to a minimum.

Alternative 1 would have the most complicated staging requirements due to its use of the existing highway. In the divided highway sections, the new lanes would be constructed first and then the old lanes would be rehabilitated. Depending upon the level of rehabilitation required, it may be possible to perform the rehabilitation work with lane closures as opposed to constructing cross-overs to shift traffic. In the all-pave sections, the widening for the new lanes and median would be constructed first and traffic would remain on the existing lanes. Traffic would then be shifted onto the new lanes so that the existing lanes could be rehabilitated. K-rail or other traffic barriers may be necessary due to the proximity of traffic to the work zone. It may also be necessary to shift traffic into the shoulder areas to create space between the traffic lanes and the work zone.

Alternatives 2, 2A, 3, and 4 would all be constructed in similar fashion. The new lanes would be constructed first while traffic uses the existing lanes. Traffic would then be shifted over to the new lanes while the existing lanes are rehabilitated or removed. Cross-overs would be required near S.R. 190 and near PM 40.0 and would require temporary realignment to shift traffic while the new lanes and facilities are being constructed.

## **8. PROGRAMMING**

This project is a jointly funded MOU project, with Inyo (40%), Kern (10%), and Mono (10%) County pooling RIP funds to provide 60% of the funding, and the remaining 40% of the funding coming from the IIP. It is fully funded through the PS&E phase and partially funded for Right of Way Capital and Right of Way Support.

### **A. Project Schedule**

The current schedule as identified in the Project Status Report is shown below:

<b>Milestone Dates</b>	<b>Month/Day/Year</b>
Approve DED/DPR	07/15/2010
PA & ED	11/01/2011
R/W Maps	12/15/2010
Reg R/W	06/01/2012
PS&E to DOE	07/01/2013
Project PS&E	01/01/2014
R/W Certification	06/01/2014
Ready to List	07/01/2014
HQ Advertise	11/01/2014
Approve Contract	02/01/2015
Contract Acceptance	11/01/2017



## B. Capital Outlay and Capital Outlay Support

The following table provides the current programming information.

### Total Programmed Funding

Project Cost Component	Fiscal Year				Total
	Prior	2008/09	2011/12	2014/15	
PA & ED	\$6,872				\$6,872
PS & E		\$5,128			\$5,128
R/W Support			\$3,032		\$3,032
R/W Capital			\$13,518		\$13,518
CON Support					\$0
CON Capital					\$0
<b>Total</b>	<b>\$6,872</b>	<b>\$5,128</b>	<b>\$16,550</b>	<b>\$0</b>	<b>\$28,550</b>

All costs x\$1,000; Construction Capital and R/W Capital escalated at 5 %;  
Support Costs escalated at 3.1 %;

The following table provides the estimated funding required to construct the project. Funding would be required from both the STIP Regional Improvement Program (20.10.075.600) and the STIP Interregional Improvement Program (20.10.025.700), with funding split 60% RIP and 40% IIP. As currently scheduled, the proposed funding for construction would be required in FY 2014/15.

### Total Proposed Funding (Alternative 4 Costs Shown)

Project Cost Component	Fiscal Year				Total
	Prior	2008/09	2011/12	2014/15	
PA & ED	\$6,872				\$6,872
PS & E		\$5,128			\$5,128
R/W Support			\$3,032		\$3,032
R/W Capital			\$13,764		\$13,764
CON Support				\$5,900	\$5,900
CON Capital				\$114,649	\$114,649
<b>Total</b>	<b>\$6,872</b>	<b>\$5,128</b>	<b>\$16,796</b>	<b>\$120,549</b>	<b>\$149,345</b>

All costs x\$1,000; Construction Capital escalated at 5.0 %; Support Costs escalated at 3.1 %;  
Construction Capital escalated to mid-construction (2016)

## 9. REVIEWS

The Project Study Report – Environmental Only (PSR-EO) for this project was approved on January 22, 1999. The PSR-EO provided the basis for programming of the PA&ED phase of the project.

A subsequent Supplemental Project Study Report (SPSR) was approved on June 29, 2007, which provided the basis for programming of the PS&E, R/W Capital, and R/W Support phases.

A third Supplemental Project Study Report was approved on November 17, 2008, which revised the range of alternatives for the project to remove Alternative 3A and include Alternative 4. This SPSR also revised the programmed amounts of the development components as shown in the Programming Section of this report.

This project would be eligible for Federal participation, which would be administered through a Certification Acceptance Agreement.

This Draft Project Report and the Draft Mitigated Negative Declaration/Environmental Assessment have been reviewed by all pertinent functional units within Caltrans and by the Federal Highway Administration and all appropriate comments have been incorporated.

## 10. PROJECT PERSONNEL

<b>Title</b>	<b>Name</b>	<b>Telephone</b>
Project Manager	Cedrik Zemitis	(760) 872-5250
Design Manager	Brian Wesling	(760) 872-0630
Project Engineer	Ron Chegwiddden	(760) 872-0764
Environmental Unit Supervisor	Kirsten Helton	(559) 243-8243
Environmental Generalist	Matthew Palmer	(559) 243-8232
Right of Way Branch Reviewer	Nancy Escallier	(760) 872-0641

## 11. LIST OF ATTACHMENTS

ATTACHMENT	TITLE
A	Draft Environmental Document
B	Location Map – Title Sheet
C	Layout Sheets
D	Typical Cross Sections
E	Cost Estimates
F	Right of Way Data Sheets
G	Traffic Report
H	Storm Water Data Report
I	Pavement Life Cycle Cost Analysis
J	SB45 Report
K	Traffic Management Plan Checklist
L	Risk Management Plan
M	Structures Advanced Planning Study
N	Relocation Impact Study
O	Mitigation Cost Compliance Estimate Form
P	Noise Abatement Decision Report

# ATTACHMENT A

## Initial Study with Proposed Mitigated Negative Declaration / Environmental Assessment

*For this attachment go to [www.4Lane395.com](http://www.4Lane395.com)*

# **ATTACHMENT B**

## Title Sheet

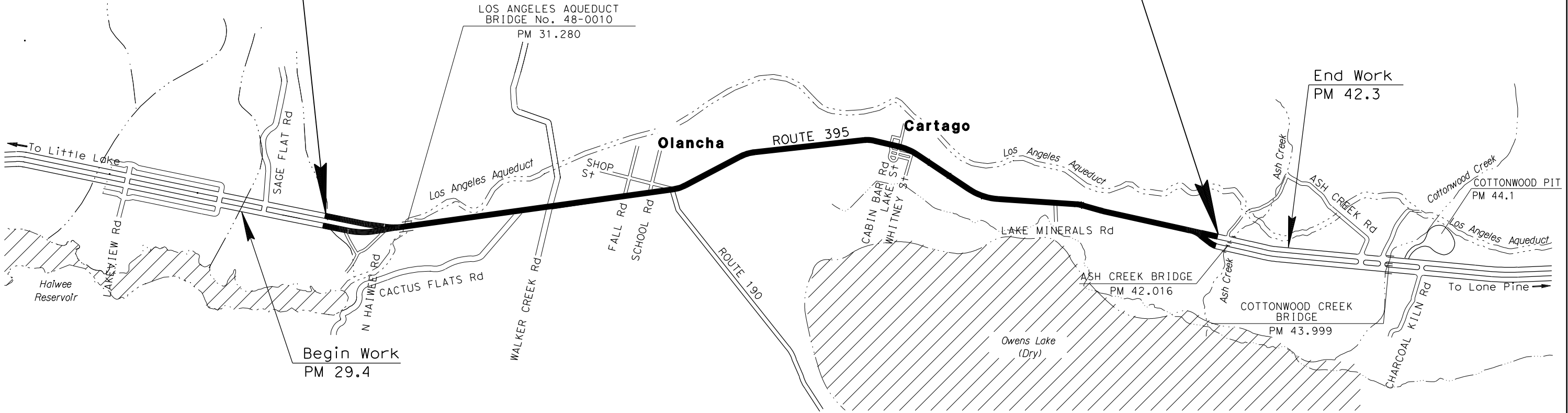
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY  
IN INYO COUNTY  
NEAR OLANCHA FROM 1.4 MILES SOUTH  
OF THE LOS ANGELES AQUEDUCT BRIDGE No. 48-10  
TO 0.1 MILE SOUTH OF ASH CREEK BRIDGE No. 48-11

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



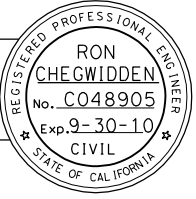
BEGIN CONSTRUCTION  
PM 29.9

END CONSTRUCTION  
PM 41.8



NO SCALE

PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER



PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS  
OFFICERS OR AGENTS SHALL NOT BE  
RESPONSIBLE FOR THE ACCURACY OR  
COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No. 09-213404

CU 09229 EA 213401

PROJECT MANAGER  
CEDRIK ZEMITIS  
DESIGN ENGINEER  
RON CHEGWIDDEN

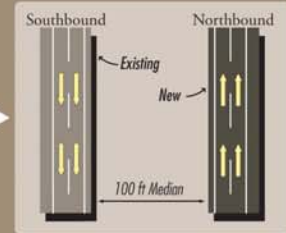
THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES)  
OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

# **ATTACHMENT C**

## Layouts

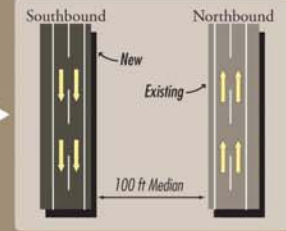
**PM 41.8**

Existing Hwy will become Southbound lanes.  
New Northbound lanes to be constructed to the east of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**PM 40.0**

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



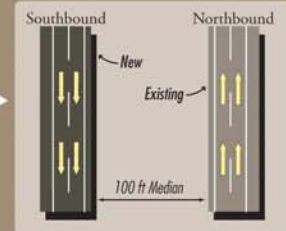
**PM 38.4**

Widen existing hwy 395 to 4 lanes w/14' two-way left turn lane. Widening will vary from side to side to reduce impacts.  
4 Lane  
14' Two-Way Left Turn Lane  
8' Shoulders



**PM 37.1**

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



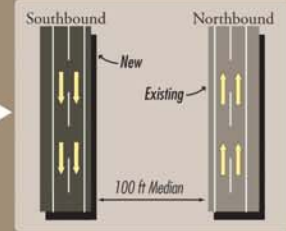
**PM 35.7**

Widen existing hwy 395 to 4 lanes w/14' two-way left turn lane. Widening will vary from side to side to reduce impacts.  
4 Lane  
14' Two-Way Left Turn Lane  
8' Shoulders



**PM 32.2**

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**PM 30.8**

**Cartago**

**Olancho**

Approximate Location  
of Borrow Site



Alternative 1  
Existing 395

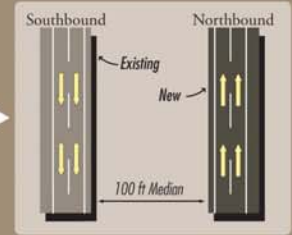
**Alternative 1**

**Olancho ~ Cartago**  
4-Lane Project



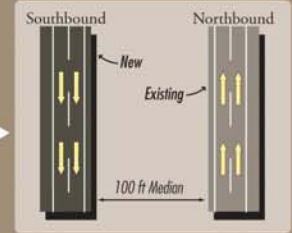
**PM 41.8**

Existing Hwy will become Southbound lanes.  
New Northbound lanes to be constructed to the east of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**PM 40.0**

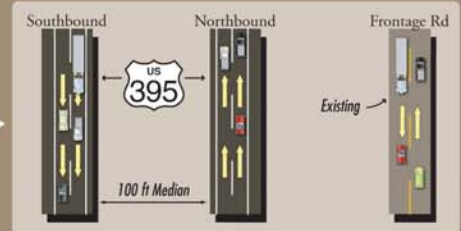
Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**Cartago**

**PM 37.1**

Existing Hwy 395 will become Frontage Road.  
New 4 Lane w/100' median to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**Olancha**

**PM 34.4**

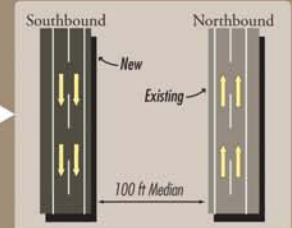
Existing Hwy 395 will become Frontage Road.  
New 4 Lane w/100' median to be constructed to the east of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**PM 32.2**

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.

4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**PM 30.8**



Alternative 2  
Existing 395

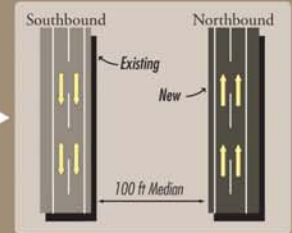
**Alternative 2**

**Olancha ~ Cartago**  
4-Lane Project



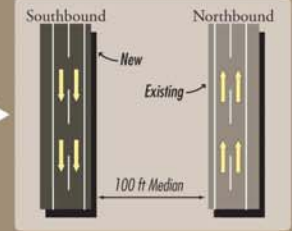
PM 41.8

Existing Hwy will become Southbound lanes.  
New Northbound lanes to be constructed to the east of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



PM 40.0

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



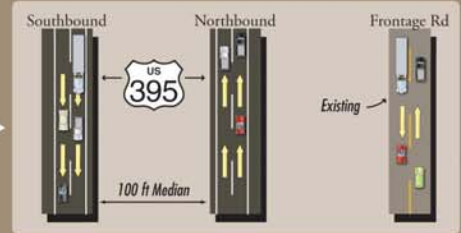
PM 38.4

4 lane bypass w/100' median to be constructed to the west of Cartago (Alt2a).  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



PM 37.1

Existing Hwy 395 will become Frontage Road.  
New 4 Lane w/100' median to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



Olancha

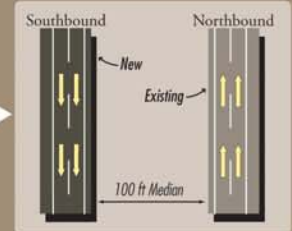
PM 34.4

Existing Hwy 395 will become Frontage Road.  
New 4 Lane w/100' median to be constructed to the east of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



PM 32.2

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



PM 30.8

Approximate Location of Borrow Site



Alternative 2A  
Alt 2A (bypass)  
Existing 395

Alternative 2A

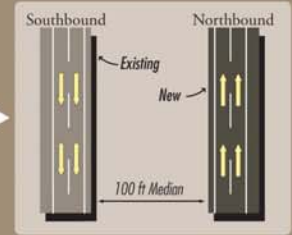
Olancha ~ Cartago  
4-Lane Project





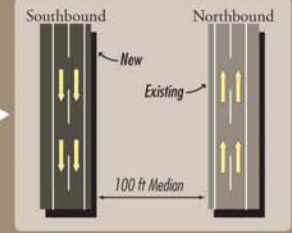
**PM 41.8**

Existing Hwy will become Southbound lanes.  
New Northbound lanes to be constructed to the east of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**PM 40.0**

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**PM 37.1**

4 lane bypass w/100' median to be constructed to the west of Olancha.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**Cartago**

**Olancha**

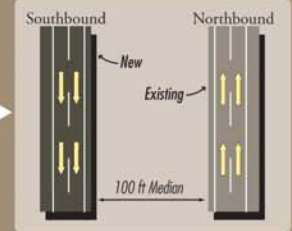
Approximate Location of Borrow Site

Extend S.R. 190 to U.S. 395

**PM 32.2**

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.

4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



**PM 30.8**

Alternative 3  
Existing 395

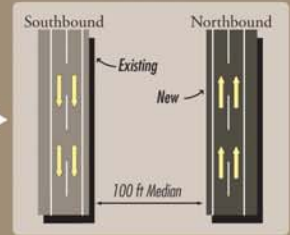
**Alternative 3**

**Olancha ~ Cartago**  
4-Lane Project



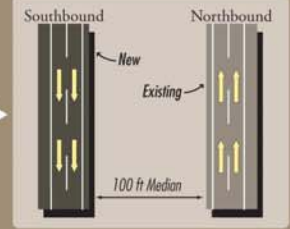
PM 41.8

Existing Hwy will become Southbound lanes.  
New Northbound lanes to be constructed to the east of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



PM 40.0

Existing Hwy will become Northbound lanes.  
New Southbound lanes to be constructed to the west of existing hwy.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



PM 38.4

4 lane bypass w/100' median to be constructed to the west of Olancha.  
4 Lane  
100' Median  
10' Right Shoulder  
5' Inside Shoulder



Cartago

Olancha

Approximate Location  
of Borrow Site

Extend S.R. 190 to U.S. 395



NOT TO SCALE

Alternative 4  
Existing 395

**Alternative 4**

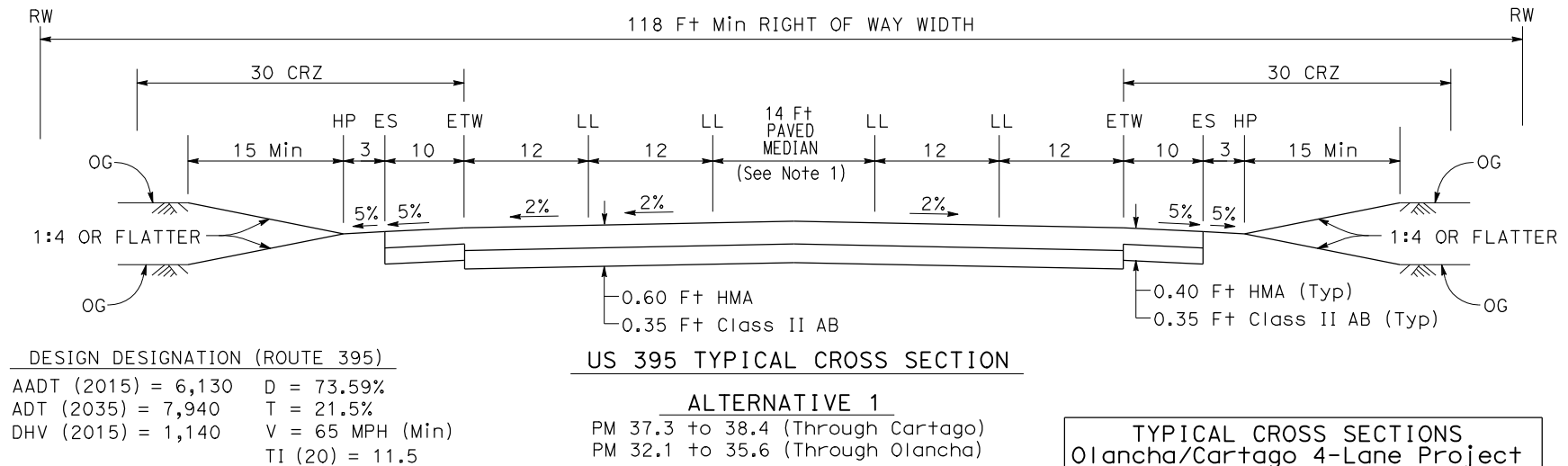
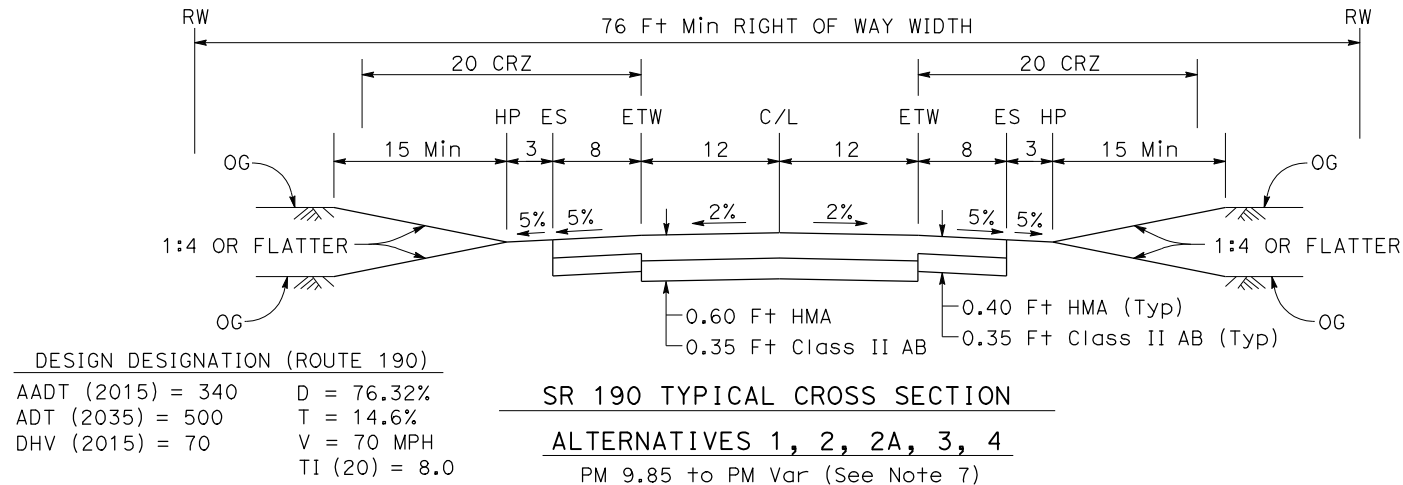
**Olancha ~ Cartago**  
4-Lane Project

PM 29.75

# **ATTACHMENT D**

## Typical Cross Sections

# PRELIMINARY TYPICAL CROSS SECTIONS

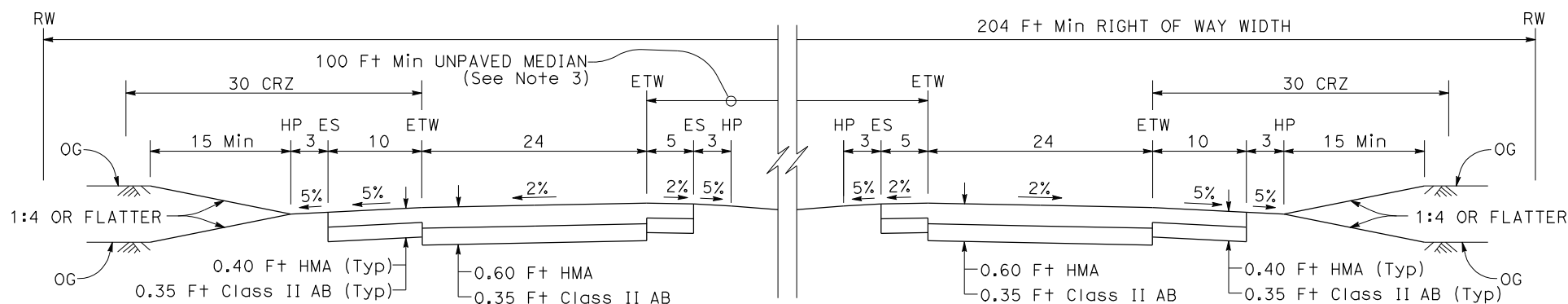


## TYPICAL CROSS SECTIONS Olancha/Cartago 4-Lane Project

EA: 09-21340  
09-INY-395 PM 29.2 / 41.8  
RU: 06-229  
Date: April, 2010

Notes are on page 2 of these cross sections.

# PRELIMINARY TYPICAL CROSS SECTIONS



## DESIGN DESIGNATION (ROUTE 395)

AADT (2015) = 6,130 D = 73.59%  
 ADT (2035) = 7,940 T = 21.5%  
 DHV (2015) = 1,140 V = 75 MPH  
 TI (20) = 11.5

## US 395 TYPICAL CROSS SECTION (See Note 2)

### ALTERNATIVE 1

PM 38.4 to 41.8  
 PM 35.6 to 37.3 (See Note 8)  
 PM 30.8 to 32.1

### ALTERNATIVES 2, 2A, and 3

PM 30.8 to 41.8

### ALTERNATIVE 4

PM 29.9 to 41.8

## TYPICAL CROSS SECTIONS Olancho/Cartago 4-Lane Project

EA: 09-21340  
 09-INY-395 PM 29.2 / 41.8  
 RU: 06-229  
 Date: April, 2010

## NOTES:

- 1) For clarity the existing roadway in relation to new roadway is not shown for Alt 1.
- 2) Only proposed State facilities are shown; frontage roads for Alternatives 2, 2A and 3 are not shown.
- 3) Median width between PM 38.4 and PM 40.0 varies from 100 Ft min to 610 Ft.
- 4) See Alternatives Section of Draft Project Report for additional detail.
- 5) All dimensions are in feet unless otherwise noted.
- 6) Superelevations are not shown.
- 7) Extent to the east is PM 10.1. Alts 3 & 4 would extend SR 190 to the west.
- 8) Median width varies from 14 ft to 100 ft due to transitions from divided expressway to 5-lane conventional highway.

## ABBREVIATIONS:

AADT: Average Annual Daily Traffic	HMA: Hot Mix Asphalt
ADT: Average Daily Traffic	AB: Aggregate Base
DHV: Design Hourly Volume	RW: Right of Way
D: Directional Split	LL: Lane Line
T: Percentage of Trucks	ETW: Edge of Travelled Way
V: Design Speed	ES: Edge of Shoulder
OG: Original Ground	HP: Hinge Point
CRZ: Clear Recovery Zone	Var: Varies

# **ATTACHMENT E**

## Cost Estimates



INY-395-PM 29.2/41.8  
Olancha/Cartago 4-Lane  
STIP, IIP (025.700), RIP (075.600)  
09-21340K

**Project Description-Alternative 1**

This alternative proposes constructing segments of conventional all-paved, conventional divided, and controlled access four-lane divided highway. The project will provide for facility continuity by connecting into the Sage Flat Four-Lane to the south and the Ash Creek Four-Lane to the north.

South End of the Project – Sage Flat Four Lane (0.45 miles south of LA Aqueduct Bridge #48-10 PM 30.8)  
Controlled access four-lane divided highway is proposed. The existing lanes will be used for northbound traffic, and new southbound lanes will be constructed to the west separated by a 100 ft. median. This segment is the same for alternatives 1 thru 3.

0.6 Miles south of Cactus Flat Road (PM 32.1)

Conventional all-paved four-lane highway is proposed. The existing highway will be widened with northbound and southbound lanes separated by a 14 foot paved median.

1 mile north of the State Route 190 junction (PM 35.7)

Conventional divided four-lane highway is proposed. The existing highway will be widened to the west with northbound and southbound lanes separated by a 100 ft. unpaved median. An at-grade crossing, acceleration, and deceleration lanes will be provided to truck traffic at the bottling plant. Access control will be purchased along the western right-of-way.

0.5 miles south of Whitney Street (PM 37.2)

Conventional four-lane highway is proposed. The existing lanes will be used for northbound traffic, and new southbound lanes will be constructed to the west separated by a 14- foot paved median.

0.6 miles north of Whitney Street (PM 38.4)

Controlled access four-lane divided highway is proposed. The existing lanes will be used for northbound traffic, and new southbound lanes will be constructed to the east separated by at least a 100 ft. median. Lanes will be constructed to avoid existing steel transmission line towers.

2.2 miles north of Whitney Street (PM 40.0)

Controlled access four-lane divided expressway is proposed. The existing lanes will be used for southbound traffic, and new northbound lanes will be constructed to the east separated by at least a 100 ft. median.

North End of Project – Join with Ash Creek Four Lane (0.4 Miles south of Ash Creek Bridge #48-11) (PM 41.8)

	Un-escalated	Escalated
Total Roadway Costs \$	49,006 K	\$ 65,672 K
Total Structure Costs \$	1,000 K	\$ 1,340 K
<b>Subtotal Construct Items \$</b>	<b>50,006 K</b>	<b>\$ 67,013 K</b>
Right of Way Costs \$	18,065 K	\$ 27,122 K
<b>TOTAL CAPITAL OUTLAY COSTS \$</b>	<b>68,071 K</b>	<b>\$ 94,134 K</b>

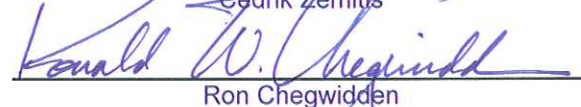
Escalation Rate 5%  
Current Year 2010  
MidConstruction Year 2016

Estimate Approved By:  
Project Manager

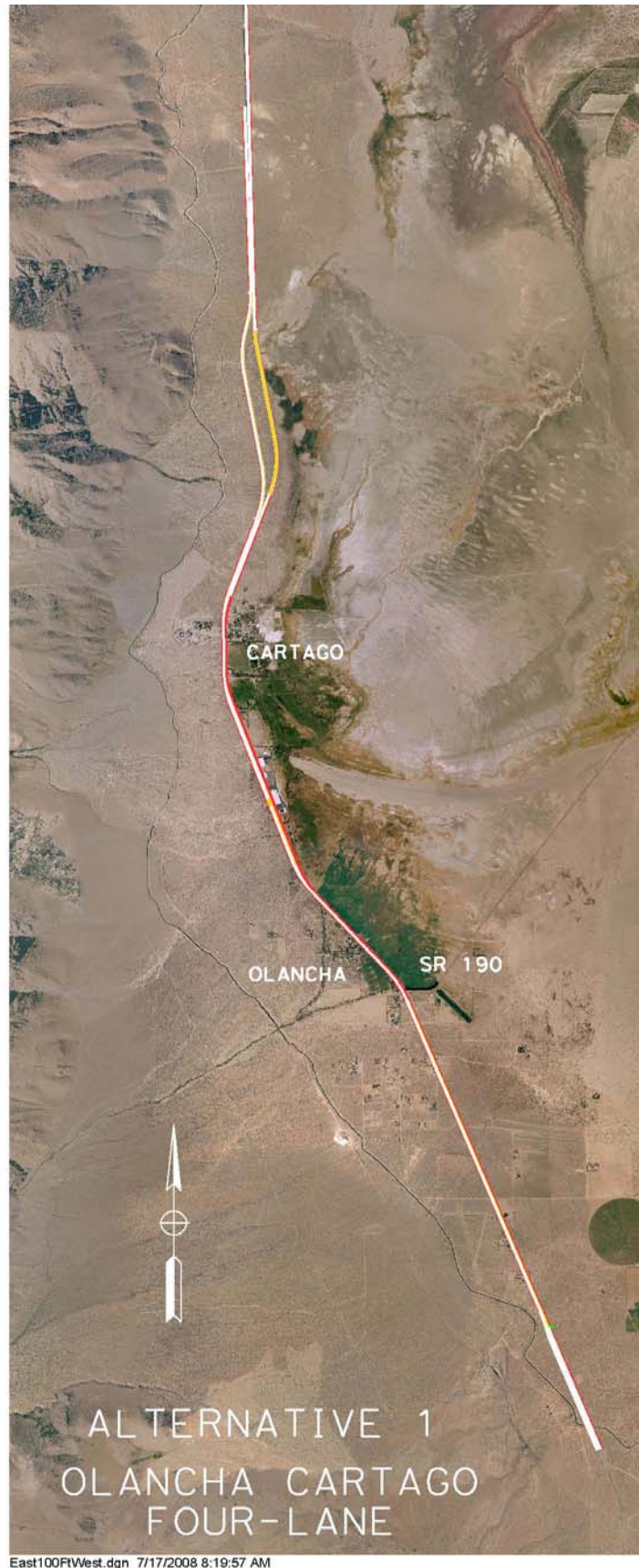
  
Cedrik Zemitis

6/7/10  
Date

Estimate Prepared By:  
Project Engineer

  
Ron Chegwiddden

June 7, 2010  
Date



**I Roadway Items****Section 1. Earthwork**

Work Item	Quantity	Unit	Unit Price	Item Cost
Roadway Excavation	307000	CY	\$ 12	\$ 3,684 K
Imported Borrow				
Clearing and Grubbing		LS		\$ 80 K
Develop Water Supply		LS		\$ 66 K

**Subtotal Section 1**      \$      3,830 K

**Section 2. Pavement Structural Section**

Work Item	Quantity	Unit	Unit Price	Item Cost
Asphalt Concrete	193000	TON	\$ 95	\$ 18,335 K
Aggregate Base	53000	CY	\$ 40	\$ 2,120 K
Incentive for QC/QA		LS	4%AC	\$ 733 K

**Subtotal Section 2**      \$      21,188 K

**Section 3. Drainage**

Work Item	Quantity	Unit	Unit Price	Item Cost
Project Drainage		LS		\$ 2,630 K

**Subtotal Section 3**      \$      2,630 K

**Section 4. Specialty Items**

Work Item	Quantity	Unit	Unit Price	Item Cost
Finish Roadway		LS		\$ 18 K
Progress Schedule (Critical Path)		LS		\$ 50 K
Prepare Storm Water Prevention Plan		LS		\$ 25 K
Equipment/Animal Pass		LS		\$ 100 K
Erosion Control	126	\$/AC	\$ 2,800.00	\$ 353 K
Duff	126	\$/AC	\$ 4,453.00	\$ 561 K
Water Pollution Control--1.25% Const	AS % OF CONST	LS	1.25%	\$ 346 K
RE Office Space		LS		\$ 168 K
Fencing	96400	FT	\$ 5.00	\$ 482 K
Remove Base and Surfacing	4100	CY	\$ 23.00	\$ 94 K
Shoulder Backing	0	CY	\$ 38.27	\$ K
Bladed Dirt Road	1400	FT	\$ 10.00	\$ 14 K
Guard Railing Systems	7500	LF	\$ 30.00	\$ 225 K
MCCE Hazardous Waste	1	LS	\$ 480,000	\$ 480 K
MCCE Monitoring	1	LS	\$ 226,155	\$ 226 K
Desert Tortise Fencing	1	LS	\$ 128,747	\$ 129 K

**Subtotal Section 4**      \$      3,271 K

## Section 5. Traffic Items

Work Item	Quantity	Unit	Unit Price	Item Cost
Lighting		LS		\$ 140 K
Permanent Signing	69400	FT	3.5	\$ 243 K
Traffic Control Systems		LS		\$ 313 K
Transportation Management Plan		LS		\$ 157 K
Rumble Strip	2330	Sta	15	\$ 35 K
Traffic Monitoring Station	1	EA	15000	\$ 15 K

Subtotal Section 5 \$ 903 K

## Section 6. Minor Items

\$ 31,822 K	10% =	\$ 3,182 K
(Subtotal of Sections 1-5)	(5 to 10%)	

Subtotal Section 6 \$ 3,182 K

## Section 7. Roadway Mobilization

\$ 35,004 K	10% =	\$ 3,500 K
(Subtotal of Sections 1-6)	(10%)	

Subtotal Section 7 \$ 3,500 K

## Section 8. Roadway Additions

Supplemental Work	\$ 35,004 K	10% =	\$ 3,500 K
	(Subtotal of Sections 1-6)	(5 to 10%)	

Contingencies	\$ 35,004 K	20% =	\$ 7,001 K
	(Subtotal of Sections 1-6)	(25%)	

Subtotal Section 8 \$ 10,501 K

---

Estimate Checked By:      Date:

**TOTAL ROADWAY ITEMS \$ 49,006 K**  
(Total Sections 1-8)

## II Structures Items

**TOTAL STRUCTURES ITEMS \$ 1,000 K**

## III Right of Way Items

RIGHT OF WAY COSTS	un-escalated	Escalated FY 2014
Acquisition	\$ 4,161,382	\$ 5,058,185
Mitigation-Biology	\$ 2,790,000	\$ 3,738,867
Mitigation-Phase 3 Archaeology	\$ 1,600,000	\$ 2,144,153
Utility Relocation (State's Share)	\$ 8,039,190	\$ 14,241,916
Clearance/Demolition	\$ 587,517	\$ 787,329
Title and Escrow Fees	\$ 98,000	\$ 98,000
Relocation Assistance	\$ 777,228	\$ 1,041,560
<b>Rounded Total</b>	<b>\$ 18,053 K</b>	<b>\$ 27,110 K</b>

## ADDITIONAL RIGHT OF WAY COSTS

Environmental permit/filing fees	\$ 11,607
Construction Contract Work	\$ -
<b>Total</b>	<b>\$ 11,607</b>

**TOTAL R/W+SUPPORT COSTS \$ 27,122 K**



INY-395-PM 29.2/41.8  
Olancha/Cartago 4-Lane  
STIP, IIP (025.700), RIP (075.600)  
09-21340K

**Project Description-Alternative 2**

This alternative proposes construction of a controlled access four-lane divided expressway with the northbound and southbound lanes separated by at least a 100 ft. wide median throughout the project. The project will provide for facility continuity by connecting into the Sage Flat Four-Lane to the south and the Ash Creek Four-Lane to the north.

South End of the Project – Sage Flat Four Lane (0.45 miles south of LA Aqueduct Bridge #48-10)  
(PM 30.8)

Same as alternative 1

1.1 miles south of Cactus Flat Road (PM 31.6)

New northbound and southbound lanes will be constructed to the east of the existing highway, and the existing highway will be relinquished to Inyo County.

0.2 miles south of the Junction of State Route 190 (PM 34.5)

New northbound and southbound lanes will be constructed to the west of the existing highway. The existing highway will be relinquished to Inyo County.

0.5 miles south of Whitney Street (PM 37.2)

Existing lanes will be used for northbound traffic, and new southbound lanes will be constructed to the west.

0.6 miles north of Whitney Street (PM 38.4)

Same as alternative 1

North End of Project – Join with Ash Creek Four Lane (0.4 Miles south of Ash Creek Bridge #48-11)  
PM 41.8

	Un-escalated	Escalated
Total Roadway Costs \$	58,768 K	\$ 78,755 K
Total Structure Costs \$	2,000 K	\$ 2,680 K
<b>Subtotal Construct Items \$</b>	<b>60,768 K</b>	<b>\$ 81,435 K</b>
Right of Way Costs \$	18,707 K	\$ 28,978 K
<b>TOTAL CAPITAL OUTLAY COSTS \$</b>	<b>79,475 K</b>	<b>\$ 110,413 K</b>

Escalation Rate 5%  
Current Year 2010  
MidConstruction Year 2016

Estimate Approved By:  
Project Manager

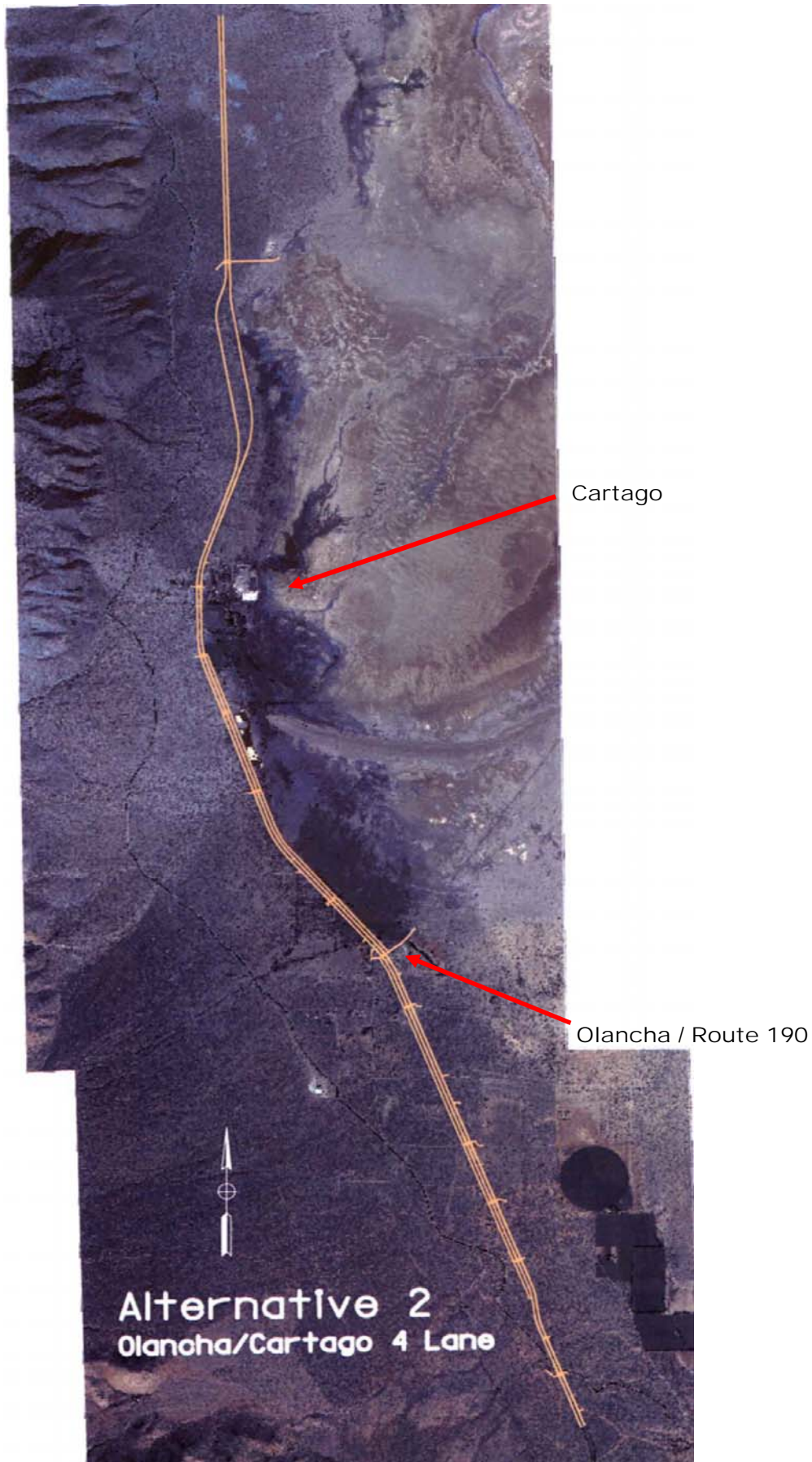
  
Gedrik Zemitis

6/7/10  
Date

Estimate Prepared By:  
Project Engineer

  
Ron Chegwidan

June 7, 2010  
Date



**I Roadway Items****Section 1. Earthwork**

Work Item	Quantity	Unit	Unit Price	Item Cost
Roadway Excavation	308500	CY	\$ 12	\$ 3,702 K
Imported Borrow				
Clearing and Grubbing		LS		\$ 80 K
Develop Water Supply		LS		\$ 66 K

**Subtotal Section 1**      \$      3,848 K

**Section 2. Pavement Structural Section**

Work Item	Quantity	Unit	Unit Price	Item Cost
Asphalt Concrete	219000	TON	\$ 95	\$ 20,805 K
Aggregate Base	71000	CY	\$ 40	\$ 2,840 K
Incentive for QC/QA		LS	4%AC	\$ 832 K

**Subtotal Section 2**      \$      24,477 K

**Section 3. Drainage**

Work Item	Quantity	Unit	Unit Price	Item Cost
Project Drainage		LS		\$ 5,260 K

**Subtotal Section 3**      \$      5,260 K

**Section 4. Specialty Items**

Work Item	Quantity	Unit	Unit Price	Item Cost
Finish Roadway		LS		\$ 18 K
Progress Schedule (Critical Path)		LS		\$ 50 K
Prepare Storm Water Prevention Plan		LS		\$ 25 K
Equipment/Animal Pass		LS		\$ 100 K
Erosion Control	152	\$/AC	\$ 2,800.00	\$ 426 K
Duff	152	\$/AC	\$ 4,453.00	\$ 677 K
Water Pollution Control--1.25% Const		LS	1.25%	\$ 420 K
RE Office Space		LS		\$ 168 K
Fencing	129500	FT	\$ 5.00	\$ 648 K
Remove Base and Surfacing	7600	CY	\$ 23.00	\$ 175 K
Shoulder Backing	600	CY	\$ 38.27	\$ 23 K
Bladed Dirt Road	3000	FT	\$ 10.00	\$ 30 K
Guard Railing Systems	2650	LF	\$ 30.00	\$ 80 K
MCCE Hazardous Waste	1	LS	\$ 480,000	\$ 480 K
MCCE Monitoring	1	LS	\$ 226,155	\$ 226 K
Desert Tortise Fencing	1	LS	\$ 128,747	\$ 129 K

**Subtotal Section 4**      \$      3,673 K

## Section 5. Traffic Items

Work Item	Quantity	Unit	Unit Price	Item Cost
Lighting		LS		\$ 140 K
Permanent Signing	69437.6	FT	3.5	\$ 243 K
Traffic Control Systems		LS		\$ 313 K
Transportation Management Plan		LS		\$ 157 K
Rumble Strip	2330	Sta	15	\$ 35 K
Traffic Monitoring Station	1	EA	15000	\$ 15 K

**Subtotal Section 5** \$ 903 K

## Section 6. Minor Items

\$ 38,161 K 10% = \$ 3,816 K  
(Subtotal of Sections 1-5) (5 to 10%)

**Subtotal Section 6** \$ 3,816 K

## Section 7. Roadway Mobilization

\$ 41,977 K 10% = \$ 4,198 K  
(Subtotal of Sections 1-6) (10%)

**Subtotal Section 7** \$ 4,198 K

## Section 8. Roadway Additions

Supplemental Work \$ 41,977 K 10% = \$ 4,198 K  
(Subtotal of Sections 1-6) (5 to 10%)

Contingencies \$ 41,977 K 20% = \$ 8,395 K  
(Subtotal of Sections 1-6) (25%)

**Subtotal Section 8** \$ 12,593 K

Estimate Checked By: Date:

**TOTAL ROADWAY ITEMS** \$ **58,768 K**  
(Total Sections 1-8)

## II Structures Items

**TOTAL STRUCTURES ITEMS** \$ **2,000 K**

## III Right of Way Items

RIGHT OF WAY COSTS	un-escalated	Escalated FY 2014
Acquisition	\$ 3,983,498	\$ 5,338,268
Mitigation-Biological	\$ 3,105,000	\$ 4,161,399
Mitigation-Phase 3 Archaeology	\$ 1,200,000	\$ 1,608,115
Utility Relocation (State's Share)	\$ 9,125,940	\$ 16,167,159
Clearance/Demolition	\$ 544,868	\$ 730,175
Title and Escrow Fees	\$ 73,000	\$ 73,000
Relocation Assistance	\$ 662,630	\$ 887,988
<b>Rounded Total</b>	<b>\$ 18,695 K</b>	<b>\$ 28,966 K</b>

## ADDITIONAL RIGHT OF WAY COSTS

Environmental permit/filing fees	\$ 11,607
Construction Contract Work	\$ -
<b>Total</b>	<b>\$ 11,607</b>

**TOTAL R/W+SUPPORT COSTS** \$ **28,978 K**



INY-395-PM 29.2/41.8  
 Olancha/Cartago 4-Lane  
 STIP, IIP (025.700), RIP (075.600)  
 09-21340K

### Project Description-Alternative 2A

This alternative is a variation of Alternative 2, and proposes that the controlled access divided four-lane expressway be constructed to the west of the community of Cartago with the northbound and southbound lanes separated by at least a 100 ft. wide median throughout.

South End of the Project – Sage Flat Four Lane (0.45 miles south of LA Aqueduct Bridge #48-10 PM 30.8)

Same as Alternative 2.

0.8 mile north of the State Route 190 junction (PM 35.5)

Proposed that the new northbound and southbound lanes be constructed to the west of the community of Cartago.

0.8 miles north of Whitney Street (PM 38.6)

Similar to Alternative 1.

North End of Project – Join with Ash Creek Four Lane (0.4 Miles south of Ash Creek Bridge #48-11) PM 41.8

	Un-escalated	Escalated
Total Roadway Costs \$	61,474 K	\$ 82,381 K
Total Structure Costs \$	2,000 K	\$ 2,680 K
<b>Subtotal Construct Items \$</b>	<b>63,474 K</b>	<b>\$ 85,061 K</b>
Right of Way Costs \$	13,160 K	\$ 19,301 K
<b>TOTAL CAPITAL OUTLAY COSTS \$</b>	<b>76,634 K</b>	<b>\$ 104,363 K</b>

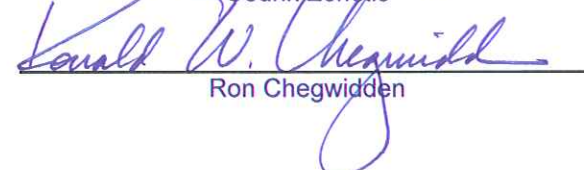
Escalation Rate 5%  
 Current Year 2010  
 MidConstruction Year 2016

Estimate Approved By:  
 Project Manager

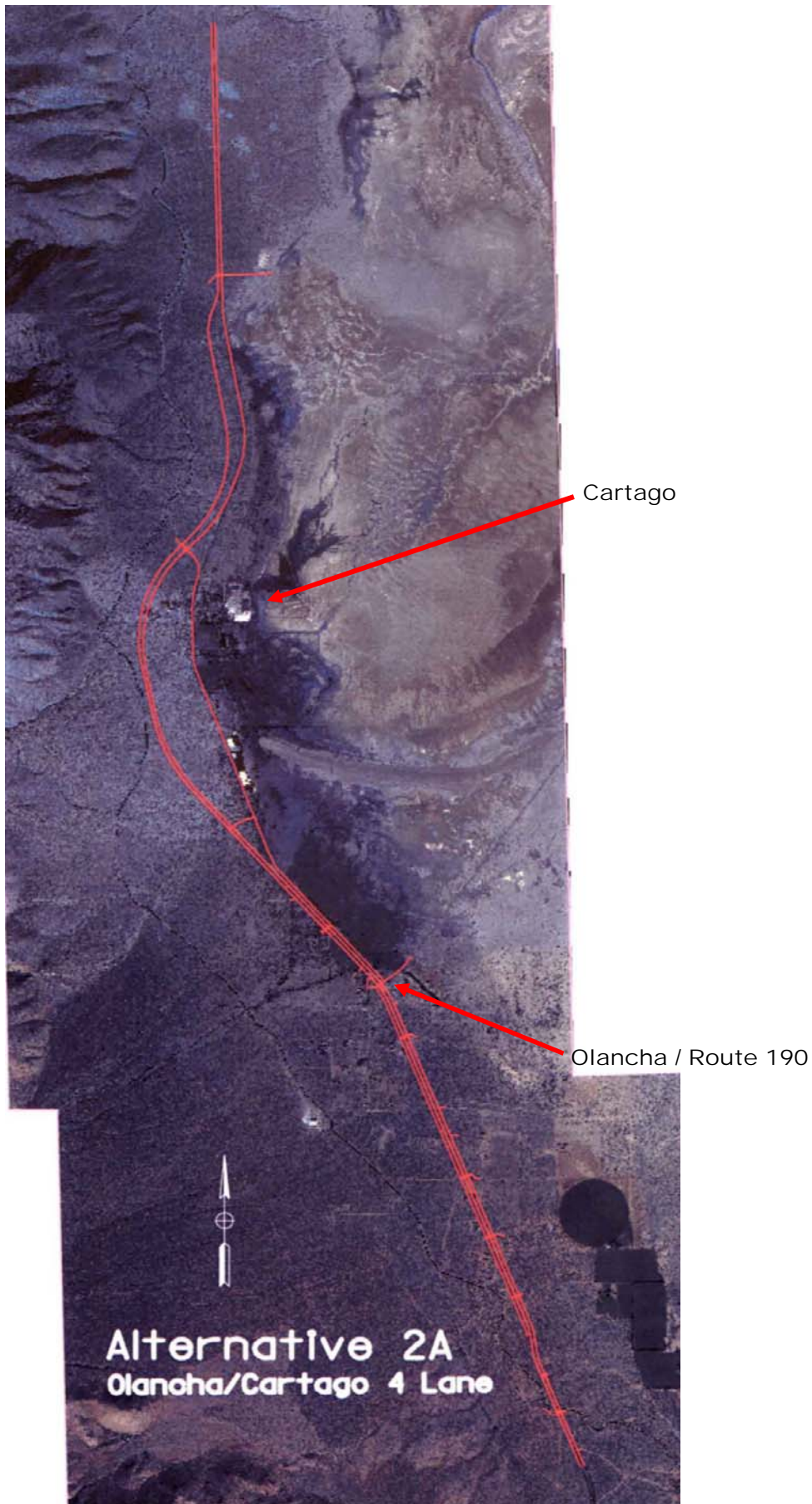
  
 Cedrik Zemitis

6/7/10  
 Date

Estimate Prepared By:  
 Project Engineer

  
 Ron Chegwidan

June 7, 2010  
 Date



**I Roadway Items****Section 1. Earthwork**

1

Work Item	Quantity	Unit	Unit Price	Item Cost
Roadway Excavation	354000	CY	\$ 12	\$ 4,248 K
Imported Borrow				
Clearing and Grubbing		LS		\$ 80 K
Develop Water Supply		LS		\$ 66 K

**Subtotal Section 1** \$ 4,394 K**Section 2. Pavement Structural Section**

Work Item	Quantity	Unit	Unit Price	Item Cost
Asphalt Concrete	230000	TON	\$ 95	\$ 21,850 K
Aggregate Base	76400	CY	\$ 40	\$ 3,056 K
Incentive for QC/QA		LS	4%AC	\$ 874 K

**Subtotal Section 2** \$ 25,780 K**Section 3. Drainage**

Work Item	Quantity	Unit	Unit Price	Item Cost
Project Drainage		LS		\$ 5,260 K

**Subtotal Section 3** \$ 5,260 K**Section 4. Specialty Items**

Work Item	Quantity	Unit	Unit Price	Item Cost
Finish Roadway		LS		\$ 18 K
Progress Schedule (Critical Path)		LS		\$ 50 K
Prepare Storm Water Prevention Plan		LS		\$ 25 K
Equipment/Animal Pass		LS		\$ 100 K
Erosion Control	120	\$/AC	\$ 2,800.00	\$ 336 K
Duff	120	\$/AC	\$ 4,453.00	\$ 534 K
Water Pollution Control--1.25% Const		LS	1.25%	\$ 443 K
RE Office Space		LS		\$ 168 K
Fencing	146600	FT	\$ 5.00	\$ 733 K
Remove Base and Surfacing	8779	CY	\$ 23.00	\$ 202 K
Shoulder Backing	697	CY	\$ 38.27	\$ 27 K
Bladed Dirt Road	3116	FT	\$ 10.00	\$ 31 K
Guard Railing Systems	2650	LF	\$ 30.00	\$ 80 K
MCCE Hazardous Waste	1	LS	\$ 480,000	\$ 480 K
MCCE Monitoring	1	LS	\$ 226,155	\$ 226 K
Desert Tortise Fencing	1	LS	\$ 128,747	\$ 129 K

**Subtotal Section 4** \$ 3,581 K

## Section 5. Traffic Items

Work Item	Quantity	Unit	Unit Price	Item Cost
Lighting		LS		\$ 140 K
Permanent Signing	69400	FT	3.5	\$ 243 K
Traffic Control Systems		LS		\$ 313 K
Transportation Management Plan		LS		\$ 157 K
Rumble Strip	2330	Sta	15	\$ 35 K
Traffic Monitoring Station	1	EA	15000	\$ 15 K

Subtotal Section 5 \$ 903 K

## Section 6. Minor Items

\$ 39,918 K	10% =	\$ 3,992 K
(Subtotal of Sections 1-5)	(5 to 10%)	

Subtotal Section 6 \$ 3,992 K

## Section 7. Roadway Mobilization

\$ 43,910 K	10% =	\$ 4,391 K
(Subtotal of Sections 1-6)	(10%)	

Subtotal Section 7 \$ 4,391 K

## Section 8. Roadway Additions

Supplemental Work	\$ 43,910 K	10% =	\$ 4,391 K
	(Subtotal of Sections 1-6)	(5 to 10%)	

Contingencies	\$ 43,910 K	20% =	\$ 8,782 K
	(Subtotal of Sections 1-6)	(25%)	

Subtotal Section 8 \$ 13,173 K

---

Estimate Checked By:      Date:

**TOTAL ROADWAY ITEMS \$ 61,474 K**  
(Total Sections 1-8)

## II Structures Items

**TOTAL STRUCTURES ITEMS \$ 2,000 K**

## III Right of Way Items

RIGHT OF WAY COSTS	un-escalated	Escalated FY 2014
Acquisition	\$ 4,062,946	\$ 5,444,736
Mitigation-Biology	\$ 3,105,000	\$ 4,160,997
Mitigation-Phase 3 Archaeology	\$ 760,000	\$ 1,018,473
Utility Relocation (State's Share)	\$ 3,928,860	\$ 6,960,215
Clearance/Demolition	\$ 510,345	\$ 683,911
Title and Escrow Fees	\$ 74,000	\$ 74,000
Relocation Assistance	\$ 707,078	\$ 947,551
<b>Rounded Total</b>	<b>\$ 13,148 K</b>	<b>\$ 19,290 K</b>

## ADDITIONAL RIGHT OF WAY COSTS

Environmental permit/filing fees	\$ 11,607
Construction Contract Work	\$ -
<b>Total</b>	<b>\$ 11,607</b>

**TOTAL R/W+SUPPORT COSTS \$ 19,301 K**



INY-395-PM 29.2/41.8  
Olancha/Cartago 4-Lane  
STIP, IIP (025.700), RIP (075.600)  
09-21340K

### Project Description-Alternative 3

This alternative proposes construction of a controlled access divided four-lane expressway to the west of the community of Olancha with the northbound and southbound lanes separated by at least a 100 ft. wide median throughout the project. The project will provide for facility continuity by connecting into the Sage Flat Four-Lane to the south and the Ash Creek Four-Lane to the north. Throughout the project inside shoulder width will be 5 feet and outside will be 10 feet.

South End of the Project – Sage Flat Four Lane (0.45 miles south of LA Aqueduct Bridge #48-10 PM 30.8)

Same as Alternative 1.

0.5 Miles south of Cactus Flat Road (PM 32.2)

New northbound and southbound lanes are proposed to be constructed to the west of the community of Olancha, near the L. A. Aqueduct. The junction with State Route 190 will be extended to the west to connect with the new lanes. A CTC approved Route Redesignation is required if the terminus of SR 190 is altered by Alt 3. (PDPM Chapter 23, Article 7)

0.6 miles south of Whitney Street (PM 37.2)


Same as alternative 2

North End of Project – Join with Ash Creek Four Lane (0.4 Miles south of Ash Creek Bridge #48-11) PM 41.8

	Un-escalated	Escalated
Total Roadway Costs \$	58,359 K	\$ 78,207 K
Total Structure Costs \$	2,000 K	\$ 2,680 K
<b>Subtotal Construct Items \$</b>	<b>60,359 K</b>	<b>\$ 80,887 K</b>
Right of Way Costs \$	8,569 K	\$ 12,018 K
<b>TOTAL CAPITAL OUTLAY COSTS \$</b>	<b>68,928 K</b>	<b>\$ 92,905 K</b>

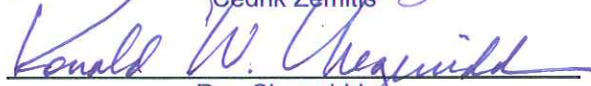
Escalation Rate 5%  
Current Year 2010  
MidConstruction Year 2016

Estimate Approved By:  
Project Manager

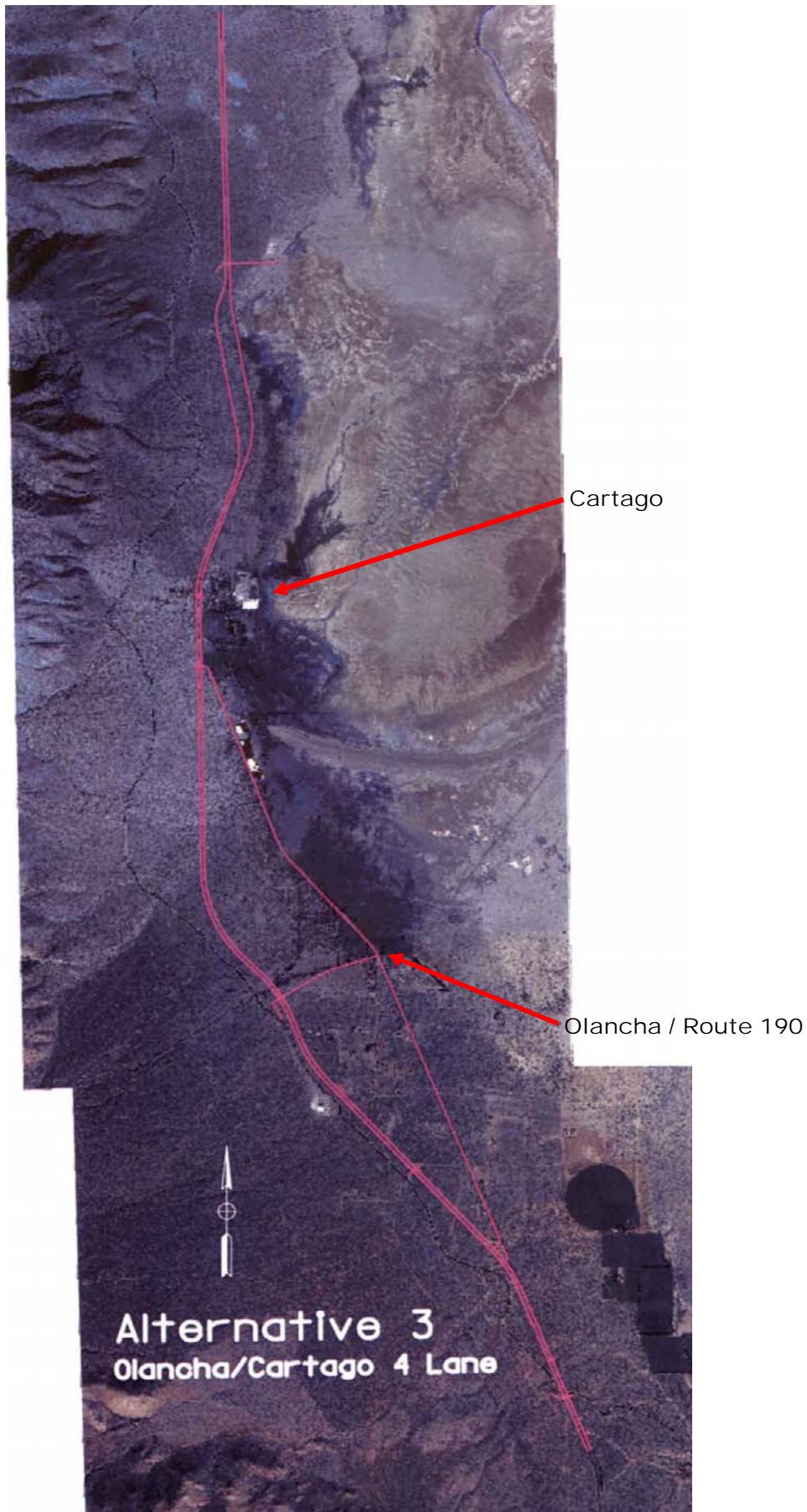
  
Cedrik Zemitis

6/7/10  
Date

Estimate Prepared By:  
Project Engineer

  
Ron Chegwidder

June 7, 2010  
Date



**I Roadway Items****Section 1. Earthwork**

1

Work Item	Quantity	Unit	Unit Price	Item Cost
Roadway Excavation	334000	CY	\$ 12	\$ 4,008 K
Imported Borrow				
Clearing and Grubbing		LS		\$ 80 K
Develop Water Supply		LS		\$ 66 K

**Subtotal Section 1** \$ 4,154 K**Section 2. Pavement Structural Section**

Work Item	Quantity	Unit	Unit Price	Item Cost
Asphalt Concrete	218000	TON	\$ 95	\$ 20,710 K
Aggregate Base	70500	CY	\$ 40	\$ 2,820 K
Incentive for QC/QA		LS	4%AC	\$ 828 K

**Subtotal Section 2** \$ 24,358 K**Section 3. Drainage**

Work Item	Quantity	Unit	Unit Price	Item Cost
Project Drainage		LS		\$ 5,260 K

**Subtotal Section 3** \$ 5,260 K**Section 4. Specialty Items**

Work Item	Quantity	Unit	Unit Price	Item Cost
Finish Roadway		LS		\$ 18 K
Progress Schedule (Critical Path)		LS		\$ 50 K
Prepare Storm Water Prevention Plan		LS		\$ 25 K
Equipment/Animal Pass		LS		\$ 100 K
Erosion Control	88	\$/AC	\$ 2,800.00	\$ 246 K
Duff	88	\$/AC	\$ 4,453.00	\$ 392 K
Water Pollution Control--1.25% Const		LS	1.25%	\$ 422 K
RE Office Space		LS		\$ 168 K
Fencing	139728	FT	\$ 5.00	\$ 699 K
Remove Base and Surfacing	6284	CY	\$ 23.00	\$ 145 K
Shoulder Backing	520	CY	\$ 38.27	\$ 20 K
Bladed Dirt Road	1508.8	FT	\$ 10.00	\$ 15 K
Guard Railing Systems	2650	LF	\$ 30.00	\$ 80 K
MCCE Hazardous Waste	1	LS	\$ 480,000	\$ 480 K
MCCE Monitoring	1	LS	\$ 226,155	\$ 226 K
Desert Tortise Fencing	1	LS	\$ 135,184	\$ 135 K

**Subtotal Section 4** \$ 3,220 K

## Section 5. Traffic Items

Work Item	Quantity	Unit	Unit Price	Item Cost
Lighting		LS		\$ 140 K
Permanent Signing	69400	FT	3.5	\$ 243 K
Traffic Control Systems		LS		\$ 313 K
Transportation Management Plan		LS		\$ 157 K
Rumble Strip	2330	Sta	15	\$ 35 K
Traffic Monitoring Station	1	EA	15000	\$ 15 K

Subtotal Section 5 \$ 903 K

## Section 6. Minor Items

\$ 37,896 K	10% =	\$ 3,790 K
(Subtotal of Sections 1-5)	(5 to 10%)	

Subtotal Section 6 \$ 3,790 K

## Section 7. Roadway Mobilization

\$ 41,685 K	10% =	\$ 4,169 K
(Subtotal of Sections 1-6)	(10%)	

Subtotal Section 7 \$ 4,169 K

## Section 8. Roadway Additions

Supplemental Work	\$ 41,685 K	10% =	\$ 4,169 K
	(Subtotal of Sections 1-6)	(5 to 10%)	

Contingencies	\$ 41,685 K	20% =	\$ 8,337 K
	(Subtotal of Sections 1-6)	(25%)	

Subtotal Section 8 \$ 12,506 K

Estimate Checked By: Date:

**TOTAL ROADWAY ITEMS \$ 58,359 K**  
 (Total Sections 1-8)

## II Structures Items

**TOTAL STRUCTURES ITEMS \$ 2,000 K**

## III Right of Way Items

RIGHT OF WAY COSTS	un-escalated	Escalated FY 2014
Acquisition	\$ 2,605,143	\$ 3,491,141
Mitigation-Biology	\$ 3,120,000	\$ 4,181,099
Mitigation-Phase 3 Archaeology	\$ 1,000,000	\$ 1,340,096
Utility Relocation (State's Share)	\$ 1,299,960	\$ 2,302,958
Clearance/Demolition	\$ 98,647	\$ 132,196
Title and Escrow Fees	\$ 66,000	\$ 66,000
Relocation Assistance	\$ 367,540	\$ 492,539
<b>Rounded Total</b>	<b>\$ 8,557 K</b>	<b>\$ 12,006 K</b>

## ADDITIONAL RIGHT OF WAY COSTS

Environmental permit/filing fees	\$ 11,607
Construction Contract Work	\$ -
<b>Total</b>	<b>\$ 11,607</b>

**TOTAL R/W+SUPPORT COSTS \$ 12,018 K**



INY-395-PM 29.2/41.8  
Olancha/Cartago 4-Lane  
STIP, IIP (025.700), RIP (075.600)  
09-21340K

#### Project Description-Alternative 4 West Alignment

South End of the Project – Sage Flat Four Lane (1.5 miles south of LA Aqueduct Bridge #48-10 PM 29.75)

Alignment 4 will be a new alignment west of the LA Aqueduct. A 4 lane divided expressway with a 100 foot median will be constructed from PM 29.75 to the northern limit of Cartago. North of Cartago the median will be 100 feet or wider so as to thread existing utilities. Land necessary for right-of-way is almost entirely Agency land (BLM, Forest service, LADWP). Access will be controlled by a right-of-way fence. The new road will bear west of the current alignment near PM 29.75 and tie in approximately with the old railroad grade. The road will continue north along the west side of the LA aqueduct. At a point just west of Cartago the road will bridge the aqueduct and angle back toward the current alignment. North of PM 38.6 alternative 4 will become similar to the other alternatives. Access control will be purchased and the route will be designated Expressway. This is a new alignment and will require adoption by the CTC. The new alignment will be denominated as "Controlled Access Highway" by a "Controlled Access Highway Agreement".

All of the existing U.S. 395 within the project construction area may be relinquished to Inyo County or some of it may become part of SR 190. A CTC approved Route Redesignation is required if the terminus of SR 190 is altered by the selection of Alt 3 or Alt 4.

North End of Project – Join with Ash Creek Four Lane (0.4 Miles south of Ash Creek Bridge #48-11) PM 41.8

	Un-escalated	Escalated
Total Roadway Costs \$	80,553 K	\$ 107,948 K
Total Structure Costs \$	5,000 K	\$ 6,700 K
<b>Subtotal Construct Items \$</b>	<b>85,553 K</b>	<b>\$ 114,649 K</b>
Right of Way Costs \$	9,837 K	\$ 13,764 K
<b>TOTAL CAPITAL OUTLAY COSTS \$</b>	<b>95,389 K</b>	<b>\$ 128,413 K</b>

Escalation Rate	5%
Current Year	2010
MidConstruction Year	2016

Estimate Approved By:  
Project Manager

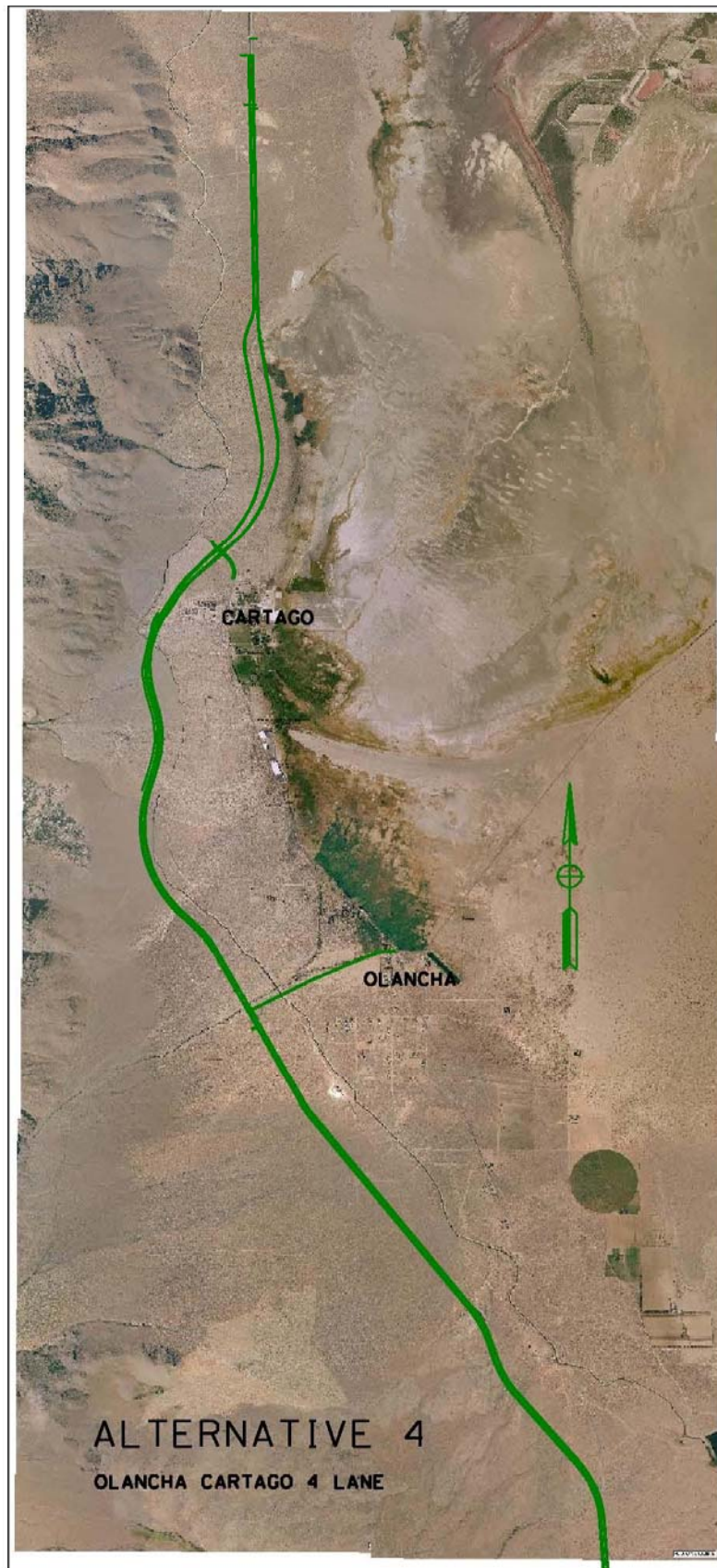
  
Cedrik Zemitis

6/7/10  
Date

Estimate Prepared By:  
Project Engineer

  
Ron Chegwidder

June 7, 2010  
Date



10/15/2008 11:31:22 AM

**I Roadway Items****Section 1. Earthwork**

1

Work Item	Quantity	Unit	Unit Price	Item Cost
Roadway Excavation	936K	CY	\$ 12	\$ 11,232 K
Imported Borrow	0	CY	\$ 8.50	\$ K
Clearing and Grubbing		LS		\$ 80 K
Develop Water Supply		LS		\$ 66 K

**Subtotal Section 1** \$ 11,378 K**Section 2. Pavement Structural Section**

Work Item	Quantity	Unit	Unit Price	Item Cost
Asphalt Concrete	230K	TON	\$ 95	\$ 21,850 K
Aggregate Base	80K	CY	\$ 40	\$ 3,200 K
Incentive for QC/QA		LS	4%AC	\$ 874 K

**Subtotal Section 2** \$ 25,924 K**Section 3. Drainage**

Work Item	Quantity	Unit	Unit Price	Item Cost
Project Drainage		LS		\$ 10,520 K

**Subtotal Section 3** \$ 10,520 K**Section 4. Specialty Items**

Work Item	Quantity	Unit	Unit Price	Item Cost
Finish Roadway		LS		\$ 18 K
Progress Schedule (Critical Path)		LS		\$ 50 K
Prepare Storm Water Prevention Plan		LS		\$ 25 K
Equipment/Animal Pass		LS		\$ 100 K
Erosion Control	80	\$/AC	\$ 2,800.00	\$ 224 K
Duff	82	\$/AC	\$ 4,453.00	\$ 366 K
Water Pollution Control--1.25% Const		LS	1.25%	\$ 598 K
RE Office Space		LS		\$ 168 K
Fencing	145000	FT	\$ 5.00	\$ 725 K
Remove Base and Surfacing	7210	CY	\$ 23.00	\$ 166 K
Shoulder Backing	605	CY	\$ 38.27	\$ 23 K
Bladed Dirt Road	2033.6	FT	\$ 10.00	\$ 20 K
Guard Railing Systems	2500	FT	\$ 30.00	\$ 75 K
MCCE Hazardous Waste	1	LS	\$ 480,000	\$ 480 K
MCCE Monitoring	1	LS	\$ 226,155	\$ 226 K
Desert Tortise Fencing	1	LS	\$ 314,143	\$ 314 K

**Subtotal Section 4** \$ 3,579 K

## Section 5. Traffic Items

Work Item	Quantity	Unit	Unit Price	Item Cost
Lighting		LS		\$ 140 K
Permanent Signing	69400	FT	3.5	\$ 243 K
Traffic Control Systems		LS		\$ 313 K
Transportation Management Plan		LS		\$ 157 K
Rumble Strip	2550	Sta	15	\$ 38 K
Traffic Monitoring Station	1	EA	15000	\$ 15 K

Subtotal Section 5 \$ 906 K

## Section 6. Minor Items

\$ 52,307 K 10% = \$ 5,231 K  
(Subtotal of Sections 1-5) (5 to 10%)

Subtotal Section 6 \$ 5,231 K

## Section 7. Roadway Mobilization

\$ 57,538 K 10% = \$ 5,754 K  
(Subtotal of Sections 1-6) (10%)

Subtotal Section 7 \$ 5,754 K

## Section 8. Roadway Additions

Supplemental Work \$ 57,538 K 10% = \$ 5,754 K  
(Subtotal of Sections 1-6) (5 to 10%)

Contingencies \$ 57,538 K 20% = \$ 11,508 K  
(Subtotal of Sections 1-6) (25%)

Subtotal Section 8 \$ 17,261 K

Estimate Checked By: Date:

**TOTAL ROADWAY ITEMS \$ 80,553 K**  
(Total Sections 1-8)

## II Structures Items

**TOTAL STRUCTURES ITEMS \$ 5,000 K**

## III Right of Way Items

RIGHT OF WAY COSTS	un-escalated	Escalated FY 2014
Acquisition	\$ 756,040	\$ 918,971
Mitigation-Biology	\$ 6,172,500	\$ 8,271,740
Mitigation-Phase 3 Archaeology	\$ 1,200,000	\$ 1,608,115
Utility Relocation (State's Share)	\$ 1,592,750	\$ 2,821,653
Demolition (hazmat)	\$ 7,452	\$ 9,986
Title and Escrow Fees	\$ 22,000	\$ 22,000
Relocation Assistance	\$ 74,348	\$ 99,633
<b>Rounded Total</b>	<b>\$ 9,825 K</b>	<b>\$ 13,752 K</b>

## ADDITIONAL RIGHT OF WAY COSTS

Environmental permit/filing fees	\$ 11,607
Construction Contract Work	\$ -
<b>Total</b>	<b>\$ 11,607</b>

**TOTAL R/W+SUPPORT COSTS \$ 13,764 K**

# **ATTACHMENT F**

## Right of Way Data Sheets



# Right of Way Data Sheet Report

To: Cedrik Zemitis  
Project Managers – Bishop

Date: March 16, 2010  
File Ref.: Inyo 395 – PM 30.8/41.8  
EA: 09-213400  
Alt No.: Alternative 1 updated

Attention: Brian Wesling, Design Manager – Bishop 872-0630  
Ron Chegvidden, Project Engineer, Bishop 872-0764  
Lee Scotese, Project Engineer – Bishop 872-0759

From: **DEPARTMENT OF TRANSPORTATION, Division of Right of Way, Central Region - Bishop**

Subject: Right of Way Data Sheet – for Alternative 1

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated: January 28, 2010 to update RW costs from July 15, 2008 Data Sheet Report due to recent design modifications on Alternative 1 of the "Olancho/Cartago 4-Lane" project. The following assumptions and limiting conditions were identified:

1. Contractor needs to be aware that USA Alert has to be contacted prior to any digging. This information should go in the specials.
2. The February 2010, Bishop "Status of Projects", page 8, **has** outlined a target right of way certification date of: 6/01/2014. Therefore the anticipated year for the right of way costs is 2014.
3. The Project Engineer indicates that **new** right of way is required for this project.
4. Land costs have held themselves rather consistent over the last few years, so RW costs within this report will be consistent with the information provided in earlier estimates.
5. The Environmental Branch has been contacted, they **do** have permit filing fees on this project. MCCE form dated 7/11/08 is being used.
6. Relocation Assistance, Demo and Clearance, numerous utility conflicts plus DWP land ownerships, will all require a long lead time and they also increase estimated costs.
7. Right of Way activities (regular or "reg." right of way work) can commence upon receipt of completed Certificate of Sufficiency. Anticipated Lead Times for this project will be –
  - ◆ Preparation of Right of Way Maps to Reg. R/W (beginning of regular right of way work). 9 Months
  - ◆ Reg. Right of Way (beginning of r/w work) to Right of Way Certification. 24 Months

**NOTE:** The last chance to submit map/project changes to Right of Way, without jeopardizing r/w certification date, is 3 months after start of regular right of way work.

**ANTICIPATED Right of Way LEAD - TIME** will require a minimum of 24 months after we receive certified Appraisal Maps, the necessary environmental clearances have been obtained, and freeway agreements have been approved.

  
NANCY ESCALLIER

Field Office Chief - Right of Way, Central Region - Bishop  
Phone: (760) 872-0641 FAX: (760) 872-0755

## RIGHT OF WAY DATA SHEET

REQUEST DATE: January 28, 2010

From: FRE ☐ STK ☐ SLO ☐ BIS ☒

District: 09 County: INYO Route: 395

PM 30.8/41.8

EA 09-213400

Alt No.: 1 updated

1. **RIGHT OF WAY COST ESTIMATE:**  
(entered into PMCS COST RW1-5 Screens)

	Current Value Year 2008	Escalation Rate	Escalated Value Year 2014
Acquisition: Excess Lands, Damages & Goodwill, plus Grantor Appraisal fees.	\$ 4,161,382.00 (2010 year)	5%	\$ 5,058,185.00
Mitigation – biological	\$ 2,790,000.00	5%	\$ 3,738,867.00
Mitigation – archaeological	\$ 1,600,000.00	5%	\$ 2,144,153.00
Utility Relocation (States share)	\$ 8,039,190.00	10%	\$14,241,916.00
Relocation Assistance	\$ 777,228.00	5%	\$ 1,041,560.00
Clearance/Demolition	\$ 587,517.00	5%	\$ 787,329.00
Title and Escrow Fees	\$ 98,000.00		\$ 98,000.00
<b>TOTAL CURRENT VALUE</b>	<b>\$18,054,000.00 ( r )</b>		<b>\$27,110,000.00 ( r )</b>
R/W SUPPORT COSTS			
Environmental permit/filing fees	\$ 11,607.00		\$ 11,607.00
Construction Contract Work (construction costs to be included in projects PS&E)			

2. Current anticipated date of RIGHT OF WAY CERTIFICATION: 6/2014

3. **PARCEL DATA:**

(entered on PMCS EVNT RW screen)

TYPE	NUMBER	DUAL APPR.	UTILITIES	RR INVOLVEMENT
X			U4-1	None X
A	28		-2	C & M Agmt
B	106		-3 3	Service Contract
C	2		-4	Lic/RE/Clauses
D				<b>MISC R/W WORK</b>
<b>TOTAL:</b>	136		U5-7	RAP Displacement Yes
			5-8	Clear/Demo Yes
			5-9	Const Permits
<b>EXCESS:</b>	Possibly			Cond Yes

Parcel Area: **Right of Way** – 129.49ac

**Excess** - possibly

4. Items of construction contract work: YES ☐ NO ☒

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.): Private ownerships, BLM, LA-DWP, buildings on leased land, houses and businesses.

YES - RIGHT OF WAY REQUIRED ☒

NO – NONE REQUIRED ☐

6. Effect on assessed valuation: YES ☒ NOT SIGNIFICANT ☐ NO ☐
7. Utility facilities or rights of way affected: YES ☒ Utility Worksheet (exhibit 13-EX-6) attached. NO ☐
- Note:** The following items may seriously impact lead time for utility relocation: a) Longitudinal policy conflict(s)  
b) Environmental concerns impacting acquisition of potential easements c) Power lines operating in excess of 50KV and substations.
8. Railroad facilities or rights of way affected: YES ☐ Railroad Worksheet attached. NO ☒
9. Previously unidentified sites with hazardous waste and/or material found: YES ☐ None Evident ☒ NO ☐
10. RAP displacements required: YES ☒ NO ☐
11. Material borrow and/or disposal sites required: YES ☒ NO ☐
12. Potential relinquishments and/or vacations: YES ☐ NO ☒
13. Existing and/or potential Airspace sites: YES ☐ NO ☒
14. Environmental mitigation parcels required: YES ☒ NO ☐
15. All Right of Way work will be performed by Caltrans staff: YES ☒ NO ☐
16. Data for evaluation provided by:

Estimator:

Lora Rischer Date: 3/14/2010  
Lora Rischer

I have personally reviewed this Right of Way Data Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

3/16/10  
Date

Nancy Escallier  
NANCY ESCALLIER  
Field Office Chief  
Right of Way, Central Region - Bishop

Entered onto PMCS Screens (Event, Cost, Agre.)

By: \_\_\_\_\_

Date: \_\_\_\_\_



Date: May 25, 2007 County: INYO Route: 395

EA: 09-21340k PM: 30.8/41.8

Description of Project: Olancho-Cartago 4-lane

Estimate for: ☒ Preliminary Route Estimate ☒ R/W Data Sheet☐ Preferred Alternate ☒ Alt 1.

UTILITIES	
U4-1	
-2	
-3	
-4	
U5-7	3
-8	
-9	

Evidence of Utilities:

☐ Gas    ☒ Electric    ☒ Telephone    ☐ Cable TV    ☐ Water  
☐ Sewer    ☒ Fiber Optics    ☐ Other (explain in remarks)

Anticipated Utility Relocations:

☐ Gas    ☒ Electric    ☒ Telephone    ☐ Cable TV    ☐ Water  
☐ Sewer    ☒ Fiber Optics    ☐ Other (explain in remarks)

Estimated Cost of Utility Relocations:

					INITIAL RELOCATE		MOVE BACK
52,800	Ft Fiber Optic Line	@ \$	50.00	/ft	= \$	2,640,000	= \$
28,512	ft of UG Telephone Line	@ \$	50.00	/ft	= \$	1,425,600	= \$
	Telephone Line	@ \$		/ft	= \$		= \$
	Wood Poles (Telephone)	@ \$		/Pole	= \$		= \$
195	Wood Poles (Electric)	@ \$	15,000	/Pole	= \$	2,925,000	= \$
	Steel Poles H-Poles	@ \$		/Pole	= \$		= \$
	Steel Towers	@ \$		/Twr.	= \$		= \$
	Water Line	@ \$		/m	= \$		= \$
	Fire Hydrants	@ \$		/F.H.	= \$		= \$
	Sewer Line	@ \$		/m	= \$		= \$
	m of Fiber Optics Line	@ \$		/ft.	= \$		= \$
	Other (explain): Cable TV	@ \$		/	= \$		= \$
TOTAL ESTIMATE (State's Share)					= \$	6,990,600.00	

Remarks: (Known utility owner names, etc.): VERIZON underground phone, VERIZON Fiber optic line, LA-DWP or SCE electric poles. There may be cable TV lines involved as well, these did not get noted during the 10/30/06 field review. Remainder estimated thru aerial mapping plus field review notes.

# Right of Way Data Sheet Report

To: Cedrik Zemitis  
Project Manager – Bishop

Date: March 16, 2010  
File Ref.: Inyo 395 – PM 30.8/41.8  
EA: 09-213400  
Alt No.: Alternative 2 - updated

Attention: Brian Wesling, Design Manager - Bishop  
Ron Chegwiddden and Lee Scotese, Project Engineer's

From: **DEPARTMENT OF TRANSPORTATION, Division of Right of Way, Central Region - Bishop**

Subject: Right of Way Data Sheet – for Alternative2

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated: January 28, 2010 to update RW costs from the July 2008 RW Data Sheet due to recent design modifications made on Alternative 2 of the "Olancho/Cartago 4-Lane". The following assumptions and limiting conditions were identified:

1. Contractor needs to be aware that USA Alert has to be contacted prior to any digging. This information should go in the specials.
2. The February 2010 Bishop "Status of Projects", page 8, **has** outlined a target right of way certification date of: 6/01/2014. Therefore the anticipated year for the right of way costs is 2014.
3. The Project Engineer indicates that **new** right of way is required for this project.
4. RWE determined minor acreage changes of up to approx. 50 acres due to the recent design modifications; this difference was not large enough to generate a new RW Estimate. Therefore no adjustments have been made to the RW info provided in the 2008 RW Data Sheet for the March 2010 update on this alternative.
5. The Environmental Branch has been contacted, they **do** have permit filing fees on this project. Information from the MCCE form dated 7/11/08 is being used.
6. Relocation Assistance, Demo and Clearance, numerous utility conflicts plus DWP land ownerships, will all require a long lead time and they also increase estimated costs.
7. Right of Way activities (regular or "reg." right of way work) can commence upon receipt of completed Certificate of Sufficiency. Anticipated Lead Times for this project will be –
  - ◆ Preparation of Right of Way Maps to Reg. R/W (beginning of regular right of way work). 9 Months
  - ◆ Reg. Right of Way (beginning of r/w work) to Right of Way Certification. 24 Months

**NOTE: The last chance to submit map/project changes to Right of Way, without jeopardizing r/w certification date, is 3 months after start of regular right of way work.**

**ANTICIPATED Right of Way LEAD - TIME** will require a minimum of 24 months after we receive certified Appraisal Maps, the necessary environmental clearances have been obtained, and freeway agreements have been approved.

  
NANCY ESCALLIER

Field Office Chief - Right of Way, Central Region - Bishop  
Phone: (760) 872-0641 FAX: (760) 872-0755

## RIGHT OF WAY DATA SHEET

REQUEST DATE: January 28, 2010

From: FRE ☐ STK ☐ SLO ☐ BIS ☒

District: 09 County: INYO Route: 395  
PM 30.8/41.8  
EA 09-213400 Alt No.: 2 updated

1. **RIGHT OF WAY COST ESTIMATE:**  
(entered into PMCS COST RW1-5 Screens)

	Current Value Year 2008	Escalation Rate	Escalated Value Year 2014
Acquisition (Excess Lands, Damages & Goodwill, plus Grantor Appraisal fees)	\$ 3,983,497.50	5%	\$ 5,338,268.00
Mitigation – biological	\$ 3,105,000.00	5%	\$ 4,161,399.00
Mitigation – archaeological	\$ 1,200,000.00	5%	\$ 1,608,115.00
Utility Relocation (States share)	\$ 9,125,940.00	10%	\$16,167,159.00
Relocation Assistance	\$ 662,630.00	5%	\$ 887,988.00
Clearance/Demolition	\$ 544,868.00	5%	\$ 730,175.00
Title and Escrow Fees	\$ 73,000.00		\$ 73,000.00
<b>TOTAL CURRENT VALUE</b>	<b>\$18,695,000.00 ( r )</b>		<b>\$28,966,100.00 ( r )</b>
R/W SUPPORT COSTS			
Environmental permit/filing fees	\$ 11,607.00		\$ 11,607.00
Construction Contract Work (construction costs to be included in projects PS&E)			

2. Current anticipated date of RIGHT OF WAY CERTIFICATION: 6/2014

3. **PARCEL DATA:**  
(entered on PMCS EVNT RW screen)

TYPE	NUMBER	DUAL/APPR	UTILITIES	RR INVOLVEMENT
X			U4-1	None X
A	31		-2	C & M Agmt
B	135		-3 3	Service Contract
C	2		-4	Lic/RE/Clauses
D				<b>MISC R/W WORK</b>
<b>TOTAL:</b>	168		U5-7	RAP Displacement Yes
			5-8	Clear/Demo Yes
			5-9	Const Permits
<b>EXCESS:</b>	possibly			Cond Yes

Parcel Area: **Right of Way-** approx. 256.99ac **Excess** - possibly

4. Items of construction contract work: YES ☐ NO ☒

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.): Private ownerships, BLM, LA-DWP, buildings on leased land, houses and businesses.

YES - RIGHT OF WAY REQUIRED ☒ NO – NONE REQUIRED ☐

6. Effect on assessed valuation: YES ☒ NOT SIGNIFICANT ☐ NO ☐

7. Utility facilities or rights of way affected: YES ☒ Utility Worksheet (exhibit 13-EX-6) attached. NO ☐

**Note:** The following items may seriously impact lead time for utility relocation: a) Longitudinal policy conflict(s)  
b) Environmental concerns impacting acquisition of potential easements c) Power lines operating in excess of 50KV and substations.

8. Railroad facilities or rights of way affected: YES ☐ Railroad Worksheet attached. NO ☒

9. Previously unidentified sites with hazardous waste and/or material found: YES ☐ None Evident ☒ NO ☐

10. RAP displacements required: YES ☒ NO ☐

11. Material borrow and/or disposal sites required: YES ☒ NO ☐

12. Potential relinquishments and/or vacations: YES ☐ NO ☒

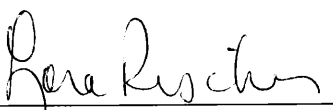
13. Existing and/or potential Airspace sites: YES ☐ NO ☒

14. Environmental mitigation parcels required: YES ☒ NO ☐

15. All Right of Way work will be performed by Caltrans staff: YES ☒ NO ☐

16. Data for evaluation provided by:

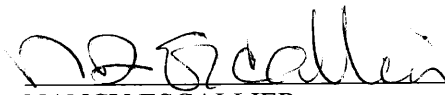
Estimator:

  
Lora Rischer

Date: 3/16/2010

I have personally reviewed this Right of Way Data Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

3/16/10  
Date

  
NANCY ESCALLIER  
Field Office Chief  
Right of Way, Central Region - Bishop

Entered onto PMCS Screens (Event, Cost, Agre.)

By: \_\_\_\_\_

Date: \_\_\_\_\_

# RIGHT OF WAY UTILITY ESTIMATE WORKSHEET

EXHIBIT

13-EX-6 (Rev. 8/95)

Date: November 7, 2006 County: INYO Route: 395

EA: 09-21340k

PM: 30.8/41.8

Description of Project: Olancho-Cartago 4 - Lane, widen hwy.

Estimate for: ☒ Preliminary Route Estimate ☐ R/W Data Sheet

☐ Preferred Alternate ☐ Alt 1. ☒ Alt. 2

UTILITIES	
U4-1	
-2	
-3	
-4	
U5-7	3
-8	
-9	

Evidence of Utilities:

☐ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☐ Water

☐ Sewer ☒ Fiber Optics ☐ Other (explain in remarks)

Anticipated Utility Relocations:

☐ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☐ Water

☐ Sewer ☒ Fiber Optics ☐ Other (explain in remarks)

Estimated Cost of Utility Relocations:

					INITIAL RELOCATE		MOVE BACK
39,600	Feet, Fiber Optic Line (white poles with orange/red tops).	@ \$	50.00 /ft	= \$	1,980,000.00	= \$	
28,512	Feet, UG Telephone Line (green box).	@ \$	50.00 /ft	= \$	1,425,600.00	= \$	
	Telephone Line	@ \$	/ft	= \$		= \$	
	Wood Poles (Telephone)	@ \$	/Pole	= \$		= \$	
162	Wood Poles (Electric)	@ \$	15,000.00 /Pole	= \$	2,430,000.00	= \$	
12	Steel Poles or H-Poles	@ \$	50,000.00 /Pole	= \$	600,000.00	= \$	
3	Steel Towers	@ \$	500,000.00 /Twr.	= \$	1,500,000.00	= \$	
	Water Line	@ \$	/m	= \$		= \$	
	Fire Hydrants	@ \$	/F.H.	= \$		= \$	
	Sewer Line	@ \$	/m	= \$		= \$	
	m of Fiber Optics Line	@ \$	/ft.	= \$		= \$	
possibly	Cable TV	@ \$	/	= \$		= \$	
TOTAL ESTIMATE (State's Share)				= \$	7,935,600.00		

Remarks: (Known utility owner names, etc.): UG phone line, UG Fiber Optic line, Pole - simple wooden and H style wood, H style metal/steel poles and steel towers. Steel Tower No. 605 said "Southern Sierra's Power Company" on it. There is probably cable TV etc thru town but I did not have time to capture that during 10/31/06 field review.

# Right of Way Data Sheet Report

To: Cedrik Zemitis  
Project Manager – Bishop

Date: March 16, 2010  
File Ref.: Inyo 395 – PM 30.8/41.8  
EA: 09-213400  
Alt No.: Alternative 2A updated

Attention: Brian Wesling, Design Manager – Bishop 872-0630  
Ron Chegwiddden and Lee Scotese, Project Engineer's

From: **DEPARTMENT OF TRANSPORTATION - Division of Right of Way, Central Region - Bishop**

Subject: Right of Way Data Sheet – for Alternative 2A

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated: January 28, 2010 to update RW costs from the July 2008 RW Data Sheet due to recent design modifications made on Alternative 2A of the "Olancho/Cartago 4-Lane" project. The following assumptions and limiting conditions were identified:

1. Contractor needs to be aware that USA Alert has to be contacted prior to any digging. This information should go in the specials.
2. The February 2010 Bishop "Status of Projects", page 8, **has** outlined a target right of way certification date of: 6/01/2014. Therefore the anticipated year for the right of way costs is 2014.
3. The Project Engineer indicates that **new** right of way is required for this project.
4. RWE determined minor acreage changes of up to approx 50 acres due to the recent design modifications; this difference was note large enough to generate a new RW Estimate. Therefore no adjustments have been made to the RW info provided in the 2008 RW Data Sheet for the March 2010 update on this alternative.
5. The Environmental Branch has been contacted, they **do** have permit filing fees on this project. Information from MCCE form dated 7/11/08 is being used.
6. Relocation Assistance, Demo and Clearance, numerous utility conflicts plus DWP land ownerships, will all require a long lead time and they also increase estimated costs.
7. Right of Way activities (regular or "reg." right of way work) can commence upon receipt of completed Certificate of Sufficiency. Anticipated Lead Times for this project will be –

- ◆ Preparation of Right of Way Maps to Reg. R/W (beginning of regular right of way work). 9 Months
- ◆ Reg. Right of Way (beginning of r/w work) to Right of Way Certification. 24 Months

**NOTE:** The last chance to submit map/project changes to Right of Way, without jeopardizing r/w certification date, is 3 months after start of regular right of way work.

**ANTICIPATED Right of Way LEAD - TIME** will require a minimum of 24 months after we receive certified Appraisal Maps, the necessary environmental clearances have been obtained, and freeway agreements have been approved.

  
NANCY ESCALLIER

Field Office Chief - Right of Way, Central Region - Bishop  
Phone: (760) 872-0641 FAX: (760) 872-0755

## RIGHT OF WAY DATA SHEET

REQUEST DATE: January 28, 2010

From: FRE ☐ STK ☐ SLO ☐ BIS ☒

District: 09 County: INYO Route: 395  
PM 30.8/41.8

EA 09-213400

Alt No.: 2A updated

1. **RIGHT OF WAY COST ESTIMATE:**

(entered into PMCS COST RW1-5 Screens)

	Current Value Year 2008	Escalation Rate	Escalated Value Year 2014
Acquisition (Excess Lands, Damages & Goodwill, plus Grantor Appraisal fees)	\$ 4,062,946.00	5%	\$ 5,444,736.00
Mitigation – biological	\$ 3,105,000.00	5%	\$ 4,160,997.00
Mitigation – archaeological	\$ 760,000.00	5%	\$ 1,018,473.00
Utility Relocation (States share)	\$ 3,928,860.00	10%	\$ 6,960,215.00
Relocation Assistance	\$ 707,077.50	5%	\$ 947,551.00
Clearance/Demolition	\$ 510,344.70	5%	\$ 683,911.00
Title and Escrow Fees	\$ 74,000.00		\$ 74,000.00
<b>TOTAL CURRENT VALUE</b>	<b>\$13,148,200.00 ( r )</b>		<b>\$19,289,900.00 ( r )</b>
R/W SUPPORT COSTS			
Environmental permit/filing fees	\$ 11,607.00		\$ 11,607.00
Construction Contract Work (construction costs to be included in projects PS&E)			

2. Current anticipated date of RIGHT OF WAY CERTIFICATION: \_\_6/2014\_\_

3. **PARCEL DATA:**

(entered on PMCS EVNT RW screen)

TYPE	NUMBER	DUAL APPR	UTILITIES	RR INVOLVEMENT
X			U4-1	None X
A	31		-2	C & M Agmt
B	72		-3 3	Service Contract
C	2		-4	Lic/RE/Clauses
D				<b>MISC R/W WORK</b>
<b>TOTAL:</b>	105		U5-7	RAP Displacement Yes
			5-8	Clear/Demo Yes
			5-9	Const Permits
<b>EXCESS:</b>	possibly			Cond Yes

Parcel Area: **Right of Way-** approx 320.28ac

**Excess** - possibly

4. Items of construction contract work: YES ☐ NO ☒

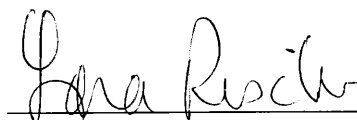
5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.): Private ownerships, BLM, LA-DWP, buildings on leased land, houses and businesses.

YES - RIGHT OF WAY REQUIRED ☒ NO – NONE REQUIRED ☐




6. Effect on assessed valuation: YES ☒ NOT SIGNIFICANT ☐ NO ☐
7. Utility facilities or rights of way affected: YES ☒ Utility Worksheet (exhibit 13-EX-6) attached. NO ☐
- Note:** The following items may seriously impact lead time for utility relocation: a) Longitudinal policy conflict(s)  
b) Environmental concerns impacting acquisition of potential easements c) Power lines operating in excess of 50KV and substations.
8. Railroad facilities or rights of way affected: YES ☐ Railroad Worksheet attached. NO ☒
9. Previously unidentified sites with hazardous waste and/or material found: YES ☐ None Evident ☒ NO ☐
10. RAP displacements required: YES ☒ NO ☐
11. Material borrow and/or disposal sites required: YES ☒ NO ☐
12. Potential relinquishments and/or vacations: YES ☐ NO ☒
13. Existing and/or potential Airspace sites: YES ☐ NO ☒
14. Environmental mitigation parcels required: YES ☒ NO ☐
15. All Right of Way work will be performed by Caltrans staff: YES ☒ NO ☐
16. Data for evaluation provided by:

Estimator:

  
Lora Rischer Date: 3/14/2010

I have personally reviewed this Right of Way Data Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

3/16/10  
Date

  
NANCY ESCALLIER  
Field Office Chief  
Right of Way, Central Region - Bishop

Entered onto PMCS Screens (Event, Cost, Agre.)

By: \_\_\_\_\_

Date: \_\_\_\_\_

# RIGHT OF WAY UTILITY ESTIMATE WORKSHEET

EXHIBIT  
13-EX-6 (Rev. 8/95)

Date: 5/16/07 County: INYO Route: 395

EA: 09-21340k PM: 30.8/41.8

UTILITIES	
U4-1	
-2	
-3	
-4	
U5-7	3
-8	
-9	

Description of Project: Olancho-Cartago 4-lane

Estimate for: ☐ Preliminary Route Estimate ☒ R/W Data Sheet

☐ Preferred Alternate ☐ Alt 1. ☒ Alt. 2A

Evidence of Utilities:

☐ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☐ Water  
☐ Sewer ☒ Fiber Optics ☐ Other (explain in remarks)

Anticipated Utility Relocations:

☐ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☐ Water  
☐ Sewer ☒ Fiber Optics ☐ Other (explain in remarks)

Estimated Cost of Utility Relocations:

				INITIAL RELOCATE	MOVE BACK
23,760	If Fiber Optic Line	@ \$	50.00 /ft	= \$ 1,188,000.00	= \$
16,368	If of UG Telephone Line	@ \$	50.00 /ft	= \$ 818,400.00	= \$
	Telephone Line	@ \$	/ft	= \$	= \$
	Wood Poles (Telephone)	@ \$	/Pole	= \$	= \$
92	Wood Poles (Electric)	@ \$	15,000 /Pole	= \$ 1,380,000.00	= \$
	Steel Poles H-Poles	@ \$	/Pole	= \$	= \$
	Steel Towers	@ \$	/Twr.	= \$	= \$
	Water Line	@ \$	/m	= \$	= \$
	Fire Hydrants	@ \$	/F.H.	= \$	= \$
	Sewer Line	@ \$	/m	= \$	= \$
2	Protection- F O Line	@ \$	2 /ea.	= \$ 30,000.00	= \$
	Other (explain): Cable TV	@ \$	/	= \$	= \$

TOTAL ESTIMATE (State's Share) = \$ 3,416,400.00

Remarks: (Known utility owner names, etc.): VERIZON Fiber Optic, LA-DWP or SCE electric.

# Right of Way Data Sheet Report

To: Cedrik Zemitis  
Project Manager – Bishop

Date: March 16, 2010  
File Ref.: Inyo 395 – PM 30.8/41.8  
EA: 09-213400  
Alt No.: Alternative 3 updated

Attention: Brian Wesling, Design Manager – Bishop  
Ron Chegwiddden and Lee Scotese, Project Engineer's

From: **DEPARTMENT OF TRANSPORTATION, Division of Right of Way, Central Region - Bishop**

Subject: Right of Way Data Sheet - Alternative 3

We have completed a General Estimate (no field review) of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated: January 28, 2010 to update RW costs from the July 2008 RW Data Sheet due to recent design modifications made on Alternative 3 of the "Olancho/Cartago 4-Lane" project. The following assumptions and limiting conditions were identified:

1. Contractor needs to be aware that USA Alert has to be contacted prior to any digging. This information should go in the specials.
2. The February 2010 Bishop "Status of Projects", page 8, **has** outlined a target right of way certification date of: 6/01/2014. Therefore the anticipated year for the right of way cost is 2014.
3. The Project Engineer indicates that **new** right of way is required for this project.
4. RWE determined minor acreage changes of up to approx 50 acres due to the recent design modifications; this difference was not large enough to generate a new RW Estimate. Therefore no adjustments have been made to the RW info provided in the 2008 RW Data Sheet for the March 2010 update on this alternative.
5. The Environmental Branch has been contacted, they **do** have permit filing fees on this project. MCCE form dated 7/11/08 is being used.
6. Relocation Assistance, Demo and Clearance, numerous utility conflicts plus DWP land ownerships, will all require a long lead time and they also increase estimated costs.
7. Right of Way activities (regular or "reg." right of way work) can commence upon receipt of completed Certificate of Sufficiency. Anticipated Lead Times for this project will be –
  - ◆ Preparation of Right of Way Maps to Reg. R/W (beginning of regular right of way work). 9 Months
  - ◆ Reg. Right of Way (beginning of r/w work) to Right of Way Certification. 24 Months

**NOTE:** The last chance to submit map/project changes to Right of Way, without jeopardizing r/w certification date, is 3 months after start of regular right of way work.

**ANTICIPATED Right of Way LEAD - TIME** will require a minimum of 24 months after we receive certified Appraisal Maps, the necessary environmental clearances have been obtained, and freeway agreements have been approved.

  
NANCY ESCALLIER

Field Office Chief - Right of Way, Central Region - Bishop  
Phone: (760) 872-0641 FAX: (760) 872-0755

## RIGHT OF WAY DATA SHEET

REQUEST DATE: January 28, 2010

From: FRE ☐ STK ☐ SLO ☐ BIS ☒

District: 09 County: INYO Route: 395  
PM 30.8/41.8  
EA 09-213400 Alt No.: 3 updated

1. **RIGHT OF WAY COST ESTIMATE:**  
(entered into PMCS COST RW1-5 Screens)

	Current Value Year 2008	Escalation Rate	Escalated Value Year 2014
Acquisition (Excess Lands, Damages & Goodwill)	\$ 2,605,143.00	5%	\$ 3,491,141.00
Mitigation – biological	\$ 3,120,000.00	5%	\$ 4,181,099.00
Mitigation – archaeological	\$ 1,000,000.00	5%	\$ 1,340,096.00
Utility Relocation (States share)	\$ 1,299,960.00	10%	\$ 2,302,958.00
Relocation Assistance	\$ 367,540.00	5%	\$ 492,539.00
Clearance/Demolition	\$ 98,647.00	5%	\$ 132,196.00
Title and Escrow Fees	\$ 66,000.00		\$ 66,000.00
<b>TOTAL CURRENT VALUE</b>	<b>\$ 8,557,300.00 ( r )</b>		<b>\$12,006,000.00 ( r )</b>
<b>R/W SUPPORT COSTS</b>			
Environmental permit/filing fees	\$ 11,607.00		\$ 11,607.00
Construction Contract Work (construction costs to be included in projects PS&E)			

2. Current anticipated date of RIGHT OF WAY CERTIFICATION: 6/2014

3. **PARCEL DATA:**

(entered on PMCS EVNT RW screen)

TYPE	NUMBER	DUAL/APPR	UTILITIES	RR INVOLVEMENT
X			U4-1	None X
A	32		-2	C & M Agmt
B	79		-3	Service Contract
C	2		-4	Lic/RE/Clauses
D				<b>MISC R/W WORK</b>
<b>TOTAL:</b>	113		U5-7 3	RAP Displacement Yes
			5-8	Clear/Demo Yes
			5-9	Const Permits
<b>EXCESS:</b>				Cond Yes

Parcel Area: **Right of Way** - approx 271ac **Excess** - not determined at this time.

4. Items of construction contract work: YES ☐ NO ☒

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.): Private ownerships, BLM, LA-DWP, buildings on leased land, houses and businesses.

YES - RIGHT OF WAY REQUIRED ☒ NO – NONE REQUIRED ☐

6. Effect on assessed valuation: YES ☒ NOT SIGNIFICANT ☐ NO ☐

7. Utility facilities or rights of way affected: YES ☒ Utility Worksheet (exhibit 13-EX-6) attached. NO ☐

**Note:** The following items may seriously impact lead time for utility relocation: a) Longitudinal policy conflict(s)  
b) Environmental concerns impacting acquisition of potential easements c) Power lines operating in excess of 50KV and substations.

8. Railroad facilities or rights of way affected: YES ☐ Railroad Worksheet attached. NO ☒

9. Previously unidentified sites with hazardous waste and/or material found: YES ☐ None Evident ☒ NO ☐

10. RAP displacements required: YES ☒ NO ☐

11. Material borrow and/or disposal sites required: YES ☒ NO ☐

12. Potential relinquishments and/or vacations: YES ☐ NO ☒

13. Existing and/or potential Airspace sites: YES ☐ NO ☒

14. Environmental mitigation parcels required: YES ☒ NO ☐

15. All Right of Way work will be performed by Caltrans staff: YES ☒ NO ☐

16. Data for evaluation provided by:

Estimator:

Lora Rischer Date: 3/14/2010  
Lora Rischer

I have personally reviewed this Right of Way Data Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

3/14/10  
Date

Nancy Escallier  
NANCY ESCALLIER  
Field Office Chief  
Right of Way, Central Region - Bishop

Entered onto PMCS Screens (Event, Cost, Agre.)

By: \_\_\_\_\_

Date: \_\_\_\_\_

# RIGHT OF WAY UTILITY ESTIMATE WORKSHEET

EXHIBIT  
13-EX-6 (Rev. 8/95)

Date: January 11, 2007 County: INYO Route: 395

EA: 09-21340k Alt 3 PM: 30.8/41.8

Description of Project: "Olancho-Cartago 4-lane"

UTILITIES	
U4-1	
-2	
-3	
-4	
U5-7	2
-8	
-9	

Estimate for: ☐ Preliminary Route Estimate ☒ R/W Data Sheet

☐ Preferred Alternate ☐ Alt 1. ☐ Alt. 2 ☒ Alt. 3

Evidence of Utilities:

☐ Gas ☒ Electric ☐ Telephone ☐ Cable TV ☐ Water  
☐ Sewer ☒ Fiber Optics ☐ Other (explain in remarks)

Anticipated Utility Relocations:

☐ Gas ☒ Electric ☐ Telephone ☐ Cable TV ☐ Water  
☐ Sewer ☒ Fiber Optics ☐ Other (explain in remarks)

Estimated Cost of Utility Relocations:

					INITIAL RELOCATE		MOVE BACK
15,840 lf	Fiber Optic Line	@ \$	60	/l ft	= \$	950,400.00	= \$
	m of UG Telephone Line	@ \$		/m	= \$		= \$
	Telephone Line	@ \$		/ft	= \$		= \$
	Wood Poles (Telephone)	@ \$		/Pole	= \$		= \$
12	Wood Poles (Electric)	@ \$	15,000	/Pole	= \$	180,000.00	= \$
	Steel Poles H-Poles	@ \$		/Pole	= \$		= \$
	Steel Towers	@ \$		/Twr.	= \$		= \$
	Water Line	@ \$		/m	= \$		= \$
	Fire Hydrants	@ \$		/F.H.	= \$		= \$
	Sewer Line	@ \$		/m	= \$		= \$
		@ \$		/ft.	= \$		= \$
	Other:	@ \$		/	= \$		= \$

TOTAL ESTIMATE (State's Share) = \$ 1,130,400.00

Remarks: (Known utility owner names, etc.): Verizon Fiber Optic and DWP or SCE Electric Poles.

**M e m o r a n d u m**

To: Cedrik Zemitis  
Project Manager – Bishop

Date: March 16, 2010  
File Ref.: Inyo 395 – PM 29.7/41.8  
EA: 09-213400  
Alt No.: Alternative 4 updated

Attention: Brian Wesling, Design Manager – Bishop 872-0630  
Lee Scotese, Project Engineer – Bishop 872-0759  
Ron Chegwiddden, Project Engineer – Bishop 872-0764

From: **DEPARTMENT OF TRANSPORTATION, Division of Right of Way, Central Region - Bishop**

Subject: Right of Way Data Sheet – updated for Alternative 4

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated: 1/28/2010 to update RW costs for recent design changes to the alignment of Alternative 4. The following assumptions and limiting conditions were identified:

1. Contractor needs to be aware that USA Alert has to be contacted prior to any digging. This information should go in the specials.
2. The February 2010 Bishop “Status of Projects”, page 8, **has** outlined a target right of way certification date of: 6/01/2014. Therefore the anticipated year for the right of way certification is 2014.
3. The Project Engineer indicates that **new** right of way is required for this project. Note: RWE has identified that the minor design changes did not significantly increase the ROW requirements. An approx. increase of 50 acres, mainly on BLM owned lands which are valued at zero.
4. Land costs have held themselves rather consistent over the last few years, so all rw costs within this report will be of the current or 2008 year.
5. The Environmental Branch has been contacted, they **do** have permit filing fees on this project. Information from Project Manager and the MCCE form dated 7/11/08 is being used.
6. Utility conflicts plus USFS, BLM and DWP land ownerships, all require a long lead-time.
7. Right of Way activities (regular or “reg.” right of way work) can commence upon receipt of completed Certificate of Sufficiency. Anticipated Lead Times for this project will be –
  - ◆ Preparation of Right of Way Maps to Reg. R/W (beginning of regular right of way work). 9 Months
  - ◆ Reg. Right of Way (beginning of r/w work) to Right of Way Certification. 24 Months

**NOTE:** The last chance to submit map/project changes to Right of Way, without jeopardizing r/w certification date, is 3 months after start of regular right of way work.

**ANTICIPATED Right of Way LEAD - TIME** will require a minimum of 24 months after we receive certified Appraisal Maps, the necessary environmental clearances have been obtained, and freeway agreements have been approved.



NANCY ESCALLIER

Field Office Chief - Right of Way, Central Region - Bishop  
(760) 872-0641 or 8-627-0641



## RIGHT OF WAY DATA SHEET

REQUEST DATE: January 28, 2010

From: FRE ☐ STK ☐ SLO ☐ BIS ☒

District: 09 County: INYO Route: 395

PM 29.7/41.8

EA 09-213400

Alt No.: 4 updated

1. **RIGHT OF WAY COST ESTIMATE:**  
(entered into PMCS COST RW1-5 Screens)

	Current Value Year 2008	Escalation Rate	Escalated Value Year 2014
Acquisition (Excess Lands, Damages & Goodwill, plus Grantor Appraisal fees)	\$ 756,040.00 (2010 year)	5%	\$ 918,971.00
Mitigation – biological	\$ 6,172,500.00	5%	\$ 8,271,740.00
Mitigation – archaeological	\$ 1,200,000.00	5%	\$ 1,608,115.00
Utility Relocation (States share)	\$ 1,592,750.00	10%	\$ 2,821,653.00
Relocation Assistance	\$ 74,348.00	5%	\$ 99,633.00
Clearance/Demolition	\$ 7,452.00	5%	\$ 9,986.00
Title and Escrow Fees	\$ 22,000.00		\$ 22,000.00
<b>TOTAL CURRENT VALUE</b>	<b>\$9,825,100.00 ( r )</b>		<b>\$13,752,100.00 ( r )</b>
R/W SUPPORT COSTS			
Environmental permit/filing fees	\$ 11,607.00		\$ 11,607.00
Construction Contract Work (construction costs to be included in projects PS&E)			

2. Current anticipated date of RIGHT OF WAY CERTIFICATION: 2/2014

3. **PARCEL DATA:**  
(entered on PMCS EVNT RW screen)

TYPE	NUMBER	DUAL APPR.	UTILITIES	RR INVOLVEMENT
X			U4-1	None X
A	62		-2	C & M Agmt
B	46		-3 3	Service Contract
C			-4	Lic/RE/Clauses
D				<b>MISC R/W WORK</b>
<b>TOTAL:</b>	108		U5-7 3	RAP Displacement Yes
			5-8	Clear/Demo Yes
			5-9	Const Permits
<b>EXCESS:</b>	Possibly			Cond

Parcel Area: **Right of Way** – 516.92 ac **Excess** - possibly

4. Items of construction contract work: YES ☐ NO ☒

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.): private ownerships, BLM, USFS and LA-DWP owned parcels, most all are vacant high desert scrub land.

YES - RIGHT OF WAY REQUIRED ☒ NO – NONE REQUIRED ☐

6. Effect on assessed valuation: YES ☒ NOT SIGNIFICANT ☐ NO ☐
7. Utility facilities or rights of way affected: YES ☒ Utility Worksheet (exhibit 13-EX-6) attached. NO ☐
- Note:** The following items may seriously impact lead time for utility relocation: a) Longitudinal policy conflict(s)  
b) Environmental concerns impacting acquisition of potential easements c) Power lines operating in excess of 50KV and substations.
8. Railroad facilities or rights of way affected: YES ☐ Railroad Worksheet attached. NO ☒
9. Previously unidentified sites with hazardous waste and/or material found: YES ☐ NONE EVIDENT ☒ NO ☐
10. RAP displacements required: YES ☒ NO ☐
11. Material borrow and/or disposal sites required: YES ☒ NO ☐ Not Determined at this time ☐
12. Potential relinquishments and/or vacations: YES ☐ NO ☒
13. Existing and/or potential Airspace sites: YES ☐ NO ☒
14. Environmental mitigation parcels required: YES ☒ NO ☐
15. All Right of Way work will be performed by Caltrans staff: YES ☒ NO ☐
16. Data for evaluation provided by:

Estimator:

Lora Rischer  
Lora Rischer

Date: 3/16/2010

I have personally reviewed this Right of Way Data Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

3/16/10  
Date

Nancy Escallier  
NANCY ESCALLIER  
Field Office Chief  
Right of Way, Central Region - Bishop

Entered onto PMCS Screens (Event, Cost, Agre.)

By: \_\_\_\_\_

Date: \_\_\_\_\_

**R/W UTILITY ESTIMATE WORKSHEET AND  
R/W DATA SHEET INSTRUCTIONS**

**EXHIBIT  
13-EX-6 (Rev. 8/95)**

Date: 9-11-08

P.M.: 29.7/41.8

EA: 213400

Description of Project: Olancho/Cartago 4-Lane Project

Estimate for: [ Alt 4 ] Preliminary Route Estimate

[ ] R/W Data Sheet (Preferred Alternate)

UTILITIES	
U4-1	
-2	
-3	
-4	3
U5-7	3
-8	3
-9	

Evidence of Utilities:

[ ] Gas [x] Electric [x] Telephone [ ] Cable TV [ ] Water  
[ ] Sewer [x] Fiber Optics [ ] Other (explain in remarks)

Anticipated Utility Relocations:

[ ] Gas [ ] Electric x ] Telephone [ ] Cable TV [ ] Water  
[ ] Sewer [ ] Fiber Optics [ ] Other (explain in remarks)

Estimated Cost of Utility Relocations:

					INITIAL RELOCATE		MOVE BACK
	TV	@ \$	/ft	= \$		= \$	
1000'	of UG telephone Line	@ \$	30.00 /ft	= \$	30,000	= \$	
	Telephone Line	@ \$	/ft	= \$		= \$	
	Wood Poles (Telephone)	@ \$	/Pole	= \$		= \$	
9	Wood Poles (Electric)	@ \$	15,000 /Pole	= \$	135,000	= \$	
4	Wood Poles H-Poles	@ \$	25,000 /Pole	= \$	100,000	= \$	
2	Steel Towers	@ \$	500,000 /Twr.	= \$	1,000,000	= \$	
	Water Line	@ \$	/m	= \$		= \$	
	Fire Hydrants	@ \$	/F.H.	= \$		= \$	
	Sewer Line	@ \$	/m	= \$		= \$	
2000'	of Fiber Optics Line	@ \$	60.00 /ft.	= \$	120,000	= \$	
	Other (explain) Cable TV	@ \$	/	= \$		= \$	

TOTAL ESTIMATE (State's Share) = \$ 1,385,000

Remarks: Known utility owner names, Verizon, SCE, & DWP

# **ATTACHMENT G**

## Traffic Report

**M e m o r a n d u m**

*Flex your power!  
Be energy efficient!*

**To: RON CHEGWIDDEN**  
Design J

**Date:** January 20, 2010

**File:** 09-213400  
INY-395-PM 29.2/41.80  
Olancha Cartago 4 Lane



**From: DONNA HOLLAND**  
Traffic Operations

**Subject:** Traffic Index (TI) Calculations and Design Designation

Attached you will find the Traffic Index (TI) Calculations and Design Designation for the Olancha Cartago 4 Lane project on US 395 between PM's 29.20 and 41.80. This report updates any previous report you have received.

Data Year..... 2008 AADT = 5600  
Completed Construction Year AADT..... 2017 AADT = 6290  
5 Year AADT..... 2022 AADT = 6710  
10 Year AADT..... 2027 AADT = 7160  
20 Year AADT..... 2037 AADT = 8140  
5 Year TI..... 2022 TI = 10.0  
10 Year TI..... 2027 TI = 10.5  
20 Year TI..... 2037 TI = 12.0  
Construction Year DHV..... 2017 DHV = 1160  
5 Year DHV..... 2022 DHV = 1240  
10 Year DHV..... 2027 DHV = 1330  
20 Year DHV..... 2037 DHV = 1510  
2008 Directional Split = 73.59 %  
2008 Trucks = 21.5 %

If you have any questions, please do not hesitate to call me. I may be reached at (760) 872-0711 or CALNET 8-627-0711.

Attachment

c: File

# TRAFFIC INDEX and DESIGN DESIGNATION CALCULATION SHEET

CO-RTE-PM INY-395-PM 29.2/41.80  
EA 09-213400  
JOB NAME Olancha Cartago 4 Lane

Requested by: Ron Chegwidien  
Unit: Design J  
Date: 01/20/10

Census Year 2008  
Construction Year 2017  
Complete Construction Year 2017  
2 Way AADT 5,600  
Lane Distribution Factor 1.0 (Table 602.3B, Highway Design Manual)

	AM Peak	PM Peak
Peak Hour Percent, K	14.54	18.52
Directional Split, D	73.59	69.53
Product of K and D, KD	10.70	12.88
DHV = AADT x K /100	814	1037

PERCENT TRUCKS (%) 21.5  
1 WAY TRUCK VOLUME 886  
GROWTH FACTOR, %/Year 1.3

## -----TRAFFIC INDEX CALCULATIONS-----

Traffic Index Calculations are based on completion of construction per HDM 103.2

### FIVE YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	5 Year Constant	Lane Factor	ESALs
2 axle	30.65	272.0	1.1601	316.0	345	1	109,020
3 axle	9.44	84.0	1.1601	97.0	920	1	89,240
4 axle	7.77	69.0	1.1601	80.0	1470	1	117,600
5 axle	52.14	462.0	1.1601	536.0	3445	1	1,846,520
TOTALS	100	887.0		1029.0			2,162,380

Five Year TI **10.0**

### TEN YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	10 Year Constant	Lane Factor	ESALs
2 axle	30.65	272.0	1.1982	326.0	690	1	224,940
3 axle	9.44	84.0	1.1982	101.0	1840	1	185,840
4 axle	7.77	69.0	1.1982	83.0	2940	1	244,020
5 axle	52.14	462.0	1.1982	554.0	6890	1	3,817,060
TOTALS	100	887.0		1064.0			4,471,860

Ten Year TI **10.5**

### TWENTY YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	20 Year Constant	Lane Factor	ESALs
2 axle	30.65	272.0	1.2781	348.0	1380	1	480,240
3 axle	9.44	84.0	1.2781	107.0	3680	1	393,760
4 axle	7.77	69.0	1.2781	88.0	5880	1	517,440
5 axle	52.14	462.0	1.2781	591.0	13780	1	8,143,980
TOTALS	100	887.0		1134.0			9,535,420

Twenty Yr TI **12.0**

### SHOULDER TIs

Design Life	2% ESALs	TI
5 Year	43,248	6.0
10 Year	89,437	6.5
20 Year	190,708	7.5

## -----DESIGN DESIGNATION-----

Design Designation is based on year of construction per HDM 103.1

Construction Year AADT.....	AADT ( 2017 ) = 6290
Five Year AADT.....	AADT ( 2022 ) = 6710
Ten Year AADT.....	AADT ( 2027 ) = 7160
Twenty Year AADT.....	AADT ( 2037 ) = 8140
Construction Year DHV.....	DHV ( 2017 ) = 1160
Five Year DHV.....	DHV ( 2022 ) = 1240
Ten Year DHV.....	DHV ( 2027 ) = 1330
Twenty Year DHV.....	DHV ( 2037 ) = 1510
D = 73.59 %	
T = 21.5 %	



TRAFFIC OPERATIONS

January 20, 2010

DATE

## TRAFFIC DATA

Project: Olancha/Cartago 4 Lane, Inyo 395, 09-21340, PM 29.2/41.8

Speed Zone Survey: The segment encompasses three speed zones. The survey was completed in January of 2009.

Description	Post Mile	Direction	Pace MPH	85% MPH
65 MPH Zone	30.5	N/B	72-81	82
		S/B	64-73	76
55 MPH Zone	36.5	N/B	55-64	67
		S/B	53-62	65
65 MPH Zone	43.5	N/B	63-72	74
		S/B	64-73	74

### Accident Data:

3 year Table B – 01/01/2006 to 12/31/2008

Accident Rates expressed in Million Vehicle Miles (MVM).

Accident Rates (Per MVM)*		
Types	Actual Avg.	Statewide Avg.
Fatal	0.036	0.024
F + I*	0.22	0.34
Total	0.52	0.78
* Accidents per Million Vehicle Miles		
* Fatal plus Injury		

Summary: 43 collisions were recorded during the three-year period of this study. There were 3 fatal collisions resulting in 4 fatalities and 9 injuries. 15 of the collisions were injury only accidents with a total of 24 injuries. 25 collisions were PDO.

### Accident Statistics:

76.7% (33) occurred when the weather was clear.  
 65.1% (28) occurred during hours of daylight.  
 93.0% (40) occurred when the pavement was dry.



## **TRAFFIC DATA (Continued)**

### Accident Statistics (cont.):

55.8% (24) were single vehicle collisions.  
32.6% (14) were two vehicle collisions.  
11.6% (5) were three or more vehicle collisions.

7.0% (3) Fatal collisions.  
34.9% (15) Injury Only collisions  
58.1% (25) Property Damage Only Collisions

69.7% (30) Northbound.

### Type of Collision:

32.5% (14) Hit Object  
27.9% (12) Overturn  
14.0% (6) Sideswipe  
14.0% (6) Rear End  
4.7% (2) Head On  
4.7% (2) Other  
2.3% (1) Broadside

### Primary Collision Factor:

30.2% (13) Speeding  
27.9% (12) Improper Turn  
18.6% (8) Other Violation  
14.0% (6) Other Than Driver  
7.0% (3) Influence of Alcohol  
2.3% (1) Failure to Yield

### Vehicle Type:

39.5% (17) Passenger vehicle  
32.6% (14) Semi truck  
20.9% (9) Pickup truck  
2.3% (1) Passenger car and trailer  
2.3% (1) Motorcycle  
2.3% (1) Pickup truck and trailer

Other Stats: 7.0% (3) Involved Livestock  
16.3% (7) Related to Passing Accidents

## **TRAFFIC DATA (Continued)**

### Comments:

The Olancha/Cartago Safety Project consisting of shoulder widening to 8 ft and installation of rumble strips and centerline rumble strip in No Passing sections was completed through these same post miles in October 2006. The accident data in this report was collected prior to, during and after the installation of these improvements.

Compiled by: Donna Holland – Traffic Operations and Safety.

**M e m o r a n d u m**

*Flex your power!  
Be energy efficient!*

**To: RON CHEGWIDDEN**  
Design J

**Date:** April 19, 2010

**File:** 09-213400  
INY-190-PM 9.85/10.30  
Olancha Cartago 4 Lane



**From: DONNA HOLLAND**  
Traffic Operations

**Subject:** Traffic Index (TI) Calculations and Design Designation

Attached you will find the Traffic Index (TI) Calculations and Design Designation for the Olancha Cartago 4 Lane project on SR 190 between PM's 9.85 and 10.30. This report is only for that portion of the Olancha/Cartago 4 Lane that is on INY-190.

Data Year..... 2008 AADT = 300  
Completed Construction Year AADT..... 2017 AADT = 360  
5 Year AADT..... 2022 AADT = 390  
10 Year AADT..... 2027 AADT = 430  
20 Year AADT..... 2037 AADT = 520  
5 Year TI..... 2022 TI = 7.0  
10 Year TI..... 2027 TI = 7.5  
20 Year TI..... 2037 TI = 8.0  
Construction Year DHV..... 2017 DHV = 70  
5 Year DHV..... 2022 DHV = 80  
10 Year DHV..... 2027 DHV = 80  
20 Year DHV..... 2037 DHV = 100  
2008 Directional Split = 76.32 %  
2008 Trucks = 14.6 %

If you have any questions, please do not hesitate to call me. I may be reached at (760) 872-0711 or CALNET 8-627-0711.

Attachment

c: File

# TRAFFIC INDEX and DESIGN DESIGNATION CALCULATION SHEET

CO-RTE-PM INY-190-PM 9.85/10.30  
EA 09-213400  
JOB NAME Olancha Cartago 4 Lane

Requested by: Ron Chegwidien  
Unit: Design J  
Date: 04/19/10

Census Year 2008  
Construction Year 2017  
Complete Construction Year 2017  
2 Way AADT 300  
Lane Distribution Factor 1.0 (Table 602.3B, Highway Design Manual)

	AM Peak	PM Peak
Peak Hour Percent, K	19.19	18.69
Directional Split, D	76.32	72.97
Product of K and D, KD	14.65	13.64
DHV = AADT x K /100	58	56

PERCENT TRUCKS (%) 14.6  
1 WAY TRUCK VOLUME 33  
GROWTH FACTOR, %/Year 1.9

## -----TRAFFIC INDEX CALCULATIONS-----

Traffic Index Calculations are based on completion of construction per HDM 103.2

### FIVE YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	5 Year Constant	Lane Factor	ESALs
2 axle	14.77	5.0	1.2417	6.0	345	1	2,070
3 axle	22.73	8.0	1.2417	10.0	920	1	9,200
4 axle	0	0.0	1.2417	0.0	1470	1	0
5 axle	62.5	21.0	1.2417	26.0	3445	1	89,570
TOTALS	100	34.0		42.0			100,840

Five Year TI 7.0

### TEN YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	10 Year Constant	Lane Factor	ESALs
2 axle	14.77	5.0	1.3015	7.0	690	1	4,830
3 axle	22.73	8.0	1.3015	10.0	1840	1	18,400
4 axle	0	0.0	1.3015	0.0	2940	1	0
5 axle	62.5	21.0	1.3015	27.0	6890	1	186,030
TOTALS	100	34.0		44.0			209,260

Ten Year TI 7.5

### TWENTY YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	20 Year Constant	Lane Factor	ESALs
2 axle	14.77	5.0	1.4299	7.0	1380	1	9,660
3 axle	22.73	8.0	1.4299	11.0	3680	1	40,480
4 axle	0	0.0	1.4299	0.0	5880	1	0
5 axle	62.5	21.0	1.4299	30.0	13780	1	413,400
TOTALS	100	34.0		48.0			463,540

Twenty Yr TI 8.0

### SHOULDER TIs

Design Life	2% ESALs	TI
5 Year	2,017	5.0
10 Year	4,185	5.0
20 Year	9,271	5.0

## -----DESIGN DESIGNATION-----

Design Designation is based on year of construction per HDM 103.1

Construction Year AADT.....	AADT ( 2017 ) = 360
Five Year AADT.....	AADT ( 2022 ) = 390
Ten Year AADT.....	AADT ( 2027 ) = 430
Twenty Year AADT.....	AADT ( 2037 ) = 520
Construction Year DHV.....	DHV ( 2017 ) = 70
Five Year DHV.....	DHV ( 2022 ) = 80
Ten Year DHV.....	DHV ( 2027 ) = 80
Twenty Year DHV.....	DHV ( 2037 ) = 100
D = 76.32 %	
T = 14.6 %	

TRAFFIC OPERATIONS

April 19, 2010  
DATE

# **ATTACHMENT H**

## Storm Water Data Report

## Long Form - Storm Water Data Report



Dist-County-Route: 09-INY-395

Post Mile (Kilometer Post) Limits: 29.2/41.8

Project Type: Upgrade 2-lane conventional highway  
to 4-lane divided expressway

EA: 09-21340

RU: 09-229

Program Identification: 20.10.075.600 (RIP)  
20.10.025.700 (IIP)

Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Lahontan RWQCB

Is the project required to consider incorporating Treatment BMPs? ☐ Yes ☒ No

If yes, can Treatment BMPs be incorporated into the project? ☐ Yes ☐ No

If No, a Technical Data Report must be submitted to the RWQCB

at least 60 days prior to PS&E Submittal. List submittal date: \_\_\_\_\_

Total Disturbed Soil Area: 297 acres

Estimated Construction Start Date: 02/2015 Construction Completion Date: 02/2017

Notification of Construction (NOC) Date to be submitted: 01/2015 (30 Days prior to construction)

Notification of ADL reuse (if Yes, provide date) ☒ Yes Date: 10/2014 ☐ No

Separate Dewatering Permit (if Yes, permit number) ☐ Yes Permit #: \_\_\_\_\_ ☒ No

*This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.*

Ronald W. Chegwiddden

Ronald W. Chegwiddden PE, Registered Project Engineer

4/27/10

Date

*I have reviewed the storm water quality design issues and find this report to be complete, current, and accurate:*

Cedrik Zemitis

Cedrik Zemitis, Project Manager

4/29/10

Date

Tom Walsh (for Charley Davis)

Charley Davis, Designated Maintenance Representative

5/2/10

Date

R. Steve Miller

R. Steve Miller, Designated Landscape Architect Representative

5/13/10

Date

Mark A. Heckman

Mark Heckman, District/Regional SW Coordinator or Designee

12-May-2010

Date



# **ATTACHMENT I**

## Pavement Life Cycle Cost Analysis



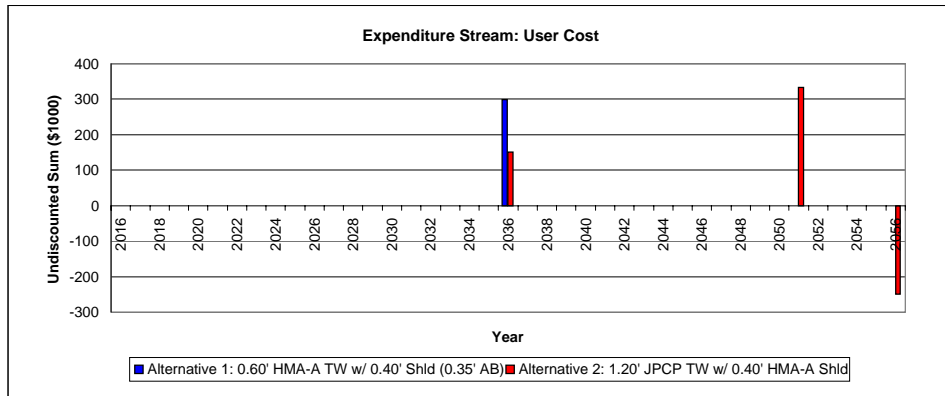
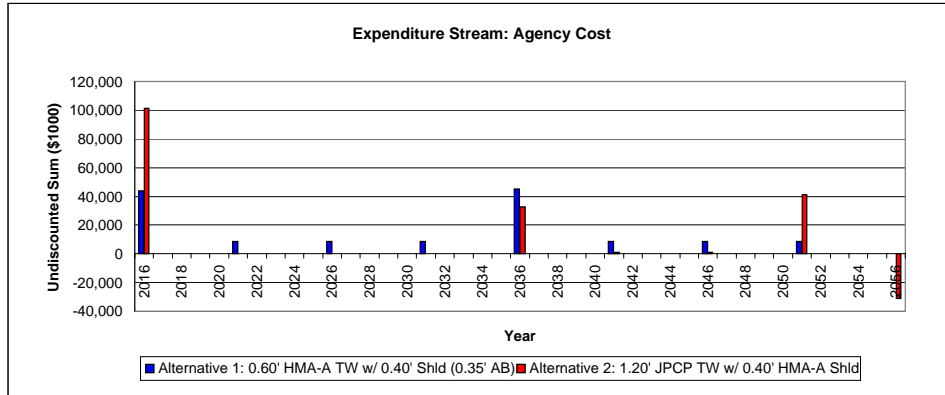
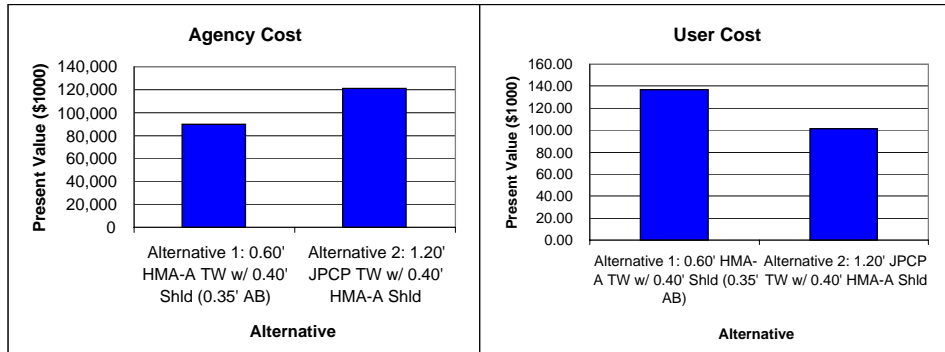
**Probabilistic Life Cycle Cost Analysis Worksheet**

**Update Results**

Total Cost				
	Alternative 1: 0.60' HMA-A TW w/ 0.40' Shld (0.35' AB)		Alternative 2: 1.20' JPCP TW w/ 0.40' HMA-A Shld	
Total Cost	Agency Cost (\$1000)	User Cost (\$1000)	Agency Cost (\$1000)	User Cost (\$1000)
Undiscounted Sum	\$140,227.00	\$299.73	\$145,851.00	\$234.05
Present Value	\$89,878.15	\$136.79	\$120,801.75	\$101.20
EUAC	\$4,540.96	\$6.91	\$6,103.33	\$5.11
Lowest Present Value Agency Cost				
Alternative 1: 0.60' HMA-A TW w/ 0.40' Shld (0.35' AB)				
Lowest Present Value User Cost				
Alternative 2: 1.20' JPCP TW w/ 0.40' HMA-A Shld				

Expenditure Stream				
	Alternative 1: 0.60' HMA-A TW w/ 0.40' Shld (0.35' AB)		Alternative 2: 1.20' JPCP TW w/ 0.40' HMA-A Shld	
Year	Agency Cost (\$1000)	User Cost (\$1000)	Agency Cost (\$1000)	User Cost (\$1000)
2016	\$43,660.00		\$101,389.00	
2017				
2018				
2019				
2020				
2021	\$8,541.00			
2022				
2023				
2024				
2025				
2026	\$8,541.00			
2027				
2028				
2029				
2030				
2031	\$8,541.00			
2032				
2033				
2034				
2035				
2036	\$45,321.00	\$299.73	\$32,559.00	\$150.94
2037				
2038				
2039				
2040				
2041	\$8,541.00		\$792.00	
2042				
2043				
2044				
2045				
2046	\$8,541.00		\$792.00	
2047				
2048				
2049				
2050				
2051	\$8,541.00		\$41,276.00	\$332.40
2052				
2053				
2054				
2055				
2056			(\$30,957.00)	(\$249.30)

# Probabilistic Life Cycle Cost Analysis Worksheet



# **ATTACHMENT J**

## SB-45 Report

Non-escalated Data													
Support Category		07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
Permit/Env (PA&ED)	Hours	11,617	11,586	11,232	15,403	5,784							
	Dollars	\$938,882	\$936,316	\$907,964	\$1,419,925	\$545,830							
PS&E	Hours			1,250	12,473	12,563	12,167	5,315	1,508	755	753	501	
	Dollars			\$93,734	\$1,023,967	\$1,022,973	\$1,103,039	\$480,081	\$120,472	\$57,775	\$57,617	\$38,359	
Right of Way	Hours			97	3,302	5,922	7,502	7,229	3,720	684	682	682	344
	Dollars			\$7,090	\$302,994	\$536,975	\$542,860	\$525,121	\$293,020	\$65,431	\$65,252	\$65,252	\$32,894
RW Prop Mgmt and XS Lands	Hours					8	93	93	93	93	93	93	47
	Dollars					\$555	\$6,751	\$6,751	\$6,751	\$6,769	\$6,751	\$6,751	\$3,403
Construction	Hours						856	1,032	7,599	17,058	16,328	11,673	1,028
	Dollars						\$57,943	\$69,800	\$595,450	\$1,352,577	\$1,302,603	\$934,665	\$82,767
Summations	Hours	11,617	11,586	12,580	31,178	24,276	20,618	13,668	12,920	18,590	17,856	12,949	1,419
	Dollars	\$938,882	\$936,316	\$1,008,787	\$2,746,886	\$2,106,334	\$1,710,593	\$1,081,753	\$1,015,693	\$1,482,552	\$1,432,223	\$1,045,026	\$119,064

Escalated Data	Current FY = 09/10; Escalation begins at start of 10/11 ; Escalation rate = 3.10%												
Support Category		07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
Permit/Env (PA&ED)	Hours	11,617	11,586	11,232	15,403	5,784							
	Dollars	\$938,882*	\$936,316*	\$907,964*	\$1,463,943	\$580,196							
PS&E	Hours			1,250	12,473	12,563	12,167	5,315	1,508	755	753	501	
	Dollars			\$93,734*	\$1,055,710	\$1,087,381	\$1,208,835	\$542,437	\$140,339	\$69,389	\$71,345	\$48,970	
Right of Way	Hours			97	3,302	5,922	7,502	7,229	3,720	684	682	682	344
	Dollars			\$7,090*	\$312,387	\$570,784	\$594,927	\$593,327	\$341,343	\$78,584	\$80,799	\$83,303	\$43,296
RW Prop Mgmt and XS Lands	Hours					8	93	93	93	93	93	93	47
	Dollars					\$590	\$7,398	\$7,627	\$7,864	\$8,130	\$8,359	\$8,618	\$4,479
Construction	Hours						856	1,032	7,599	17,058	16,328	11,673	1,028
	Dollars						\$63,501	\$78,866	\$693,647	\$1,624,479	\$1,612,957	\$1,193,233	\$108,939
Summations	Hours	11,617	11,586	12,580	31,178	24,276	20,618	13,668	12,920	18,590	17,856	12,949	1,419
	Dollars	\$938,882	\$936,316	\$1,008,787	\$2,832,039	\$2,238,951	\$1,874,661	\$1,222,257	\$1,183,193	\$1,780,582	\$1,773,460	\$1,334,125	\$156,714
* indicates dollar value that is unescalated due to past or current FY													

Support Cost Summary (escalation takes place for future activities only)				
Project Component	Hours	Dollars	FY Begin**	FY End
Permit/Env (PA&ED)	55,622	\$4,827,301	07/08	11/12
PS&E	47,287	\$4,318,141	10/11	17/18
Right of Way	30,164	\$2,705,839	10/11	18/19
R/W Prop Mgmt and XSLands	610	\$53,065	11/12	18/19
Construction	55,574	\$5,375,622	14/15	18/19
Summations	189,257 (107.65 PYs)	\$17,279,968		
** FY dates are collapsed				

EA:	09-21340_
PM:	Cedrik Zemitis
Today's Date, Time:	Tue, May 04, 2010, 10:31 AM

XPM Project Schedule	
Milestone	Date
PA&ED (M200)	11/1/2011
R/W Certification (M410)	6/1/2014
Ready to List (M460)	7/1/2014
Approve Contract (M500)	2/1/2015
Job Complete (M600)	11/1/2017

# **ATTACHMENT K**

## Traffic Management Plan Checklist

## TRAFFIC MANAGEMENT PLAN CHECKLIST

**District / EA:** 09 / 21340  
**Date Prepared:** March 1, 2010  
**Prepared By:** Brian Wesling

**Co.-Rte-PM:** Iny-395-29.9/41.8

**Description:** Olancha/Cartago 4-Lane

Included in Project	Under Dvlpmnt	Not required	Not Applicable	COMMENTS
---------------------	---------------	--------------	----------------	----------

### 1.0 Public Information

- 1.1 Brochures and Mailers
- 1.2 Media Releases (& minority media sources)
- 1.3 Paid Advertising
- 1.4 Public Information Center
- 1.5 Public Meetings/Speakers Bureau
- 1.6 Telephone Hotline
- 1.7 Visual Information (videos, slide, shows, etc.)
- 1.8 Total Facility Closure
- 1.9 Local cable TV and News
- 1.10 Traveler Information Systems (Internet)
- 1.11 Internet

	x			Incorp at time of const by PIO/contractor
	x			Incorp at time of const by PIO
		x		
		x		
	x			If needed/requested
		x		
		x		
		x		
	x			By PIO
		x		
	x			Incorp at time of const by PIO

### 2.0 Motorist Information Strategies

- 2.1 Electronic Message Signs
- 2.2 Changeable Message Signs
- 2.3 Extinguishable Signs
- 2.4 Ground Mounted Signs
- 2.5 Commercial Traffic Signs
- 2.6 Highway Advisory Radio (fixed and mobile)
- 2.7 Planned Lane Closure Web Site
- 2.8 Caltrans Highway Information Network (CHIN)
- 2.9 Radar Speed Message Sign

		x		
x				Included in Project Plans
		x		
x				Included in Project Plans
		x		
		x		
	x			Include in SSP's
	x			If lane width is reduced
		x		

### 3.0 Incident Management

- 3.1 Call Boxes
- 3.2 Construction or Maintenance Zone Enhance Enforcement Program - COZEED or MAZEED
- 3.3 Freeway Service Patrol
- 3.4 Traffic Surveillance Stations (loop detectors and CCTV)
- 3.5 911 Cellular Calls
- 3.6 Transportation Management Center
- 3.7 Traffic Control Officers
- 3.8 CHP Officer in TMC during construction
- 3.9 Traffic Management Teams
- 3.10 On-site Traffic Advisor
- 3.11 CHP Helicopter
- 3.12 Upgraded Equipment

		x		
	x			Pending Alternative Selection
		x		
		x		
	x			RE & inspectors have cell phones
		x		
		x		
		x		
		x		
		x		
		x		

Included in Project	Under Development	Not required	Not Applicable	COMMENTS
---------------------	-------------------	--------------	----------------	----------

**4.0 Construction Strategies**

- 4.1 Incentive/Disincentive Clauses
- 4.2 Ramp Metering
- 4.3 Lane Rental
- 4.4 Off peak/Night/Weekend Work
- 4.5 Planned Lane/Ramp Closures
- 4.6 Project Phasing
- 4.7 Temporary Traffic Screens
- 4.8 Total Facility Closure
- 4.9 Truck Traffic Restrictions
- 4.10 Variables Lanes
- 4.11 Extended Weekend Closures
- 4.12 Reduced Speed Zones
- 4.13 Coordination with adjacent construction
- 4.14 Traffic Control Improvements
- 4.15 Contingency Plans
  - 4.15.1 Material Plant on standby
  - 4.15.2 Extra Critical Equipment on site
  - 4.15.3 Material Testing Plan
  - 4.15.4 Alternate Material on site  
(In case of failure or major delays)
  - 4.15.5 Emergency Detour Plan
  - 4.15.6 Emergency Notification Plan
  - 4.15.7 Weather Conditions Plan
  - 4.15.8 Emergency Funding Plan
  - 4.15.9 Delay Timing and Documentation Plan
  - 4.15.10 Late Closure Reopening Notification  
(Policy & Plan)
  - 4.15.11 Traffic Inspector on site

	x			Include in SSP's
		x		
		x		
		x		
x				
x				Will be in plans-20 minute max delay
	x			
		x		
		x		
		x		
	x			Not Anticipated/will consider
x				DTM, PE & RE involved by SSP's
		x		
x				Proj includes contingency SSP's
	x			On site material available
x				Per SSP
x				
	x			On site material available
		x		
	x			RE to be informed of contacts
	x			Specifications addresses this
		x		
		x		
		x		
x				Const inspectors will be on site

**5.0 Demand Management**

- 5.1 HOV Lanes/Ramps
- 5.2 Park-and-Ride Lots
- 5.3 Parking Management/Pricing
- 5.4 Rideshare Incentives
- 5.5 Rideshare Marketing
- 5.6 Transit, Train, or Light-Rail Incentives
- 5.7 Transit Service Improvements
- 5.8 Variable Work Hours
- 5.9 Telecommute
- 5.10 Ramp Metering

		x		
		x		
		x		
		x		
		x		
		x		
		x		
		x		
		x		
		x		

**6.0 Alternate Route Strategies**

- 6.1 Ramp Closures
- 6.2 Street Improvements
- 6.3 Reversible Lanes
- 6.4 Temporary Lanes or Shoulders Use
- 6.5 Freeway to freeway connector closures

		x		
		x		
		x		
	x			Possible shoulder use/detour
		x		



Included in Project	Under Development	Not required	Not Applicable	COMMENTS

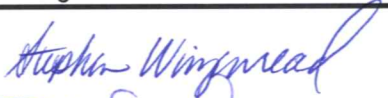


**7.0 Other Strategies**

- 7.1 Application of new technology
- 7.2 Innovative products
- 7.3 Improved specifications
- 7.4 Staff Training/Development
- 7.5 Upgraded Equipment

	x		Possible candidate for Cold Foam
		x	Recycling
	x		
		x	
		x	

**Peer Review Committee:**

This TMP has been reviewed by the following PEER Committee Members:

	Name	Tele/Fax	Representing	Signature
1-	Stephen Winzenread	(760) 872-5222	Design Branch Manager	
2-	Rob Sanchez	(760) 872-0656	Construction	
3-	Donna Holland	(760) 872-0711	Traffic Department	

Approved by:

  
 DONNA HOLLAND  
 PEER COMMITTEE CHAIR

# **ATTACHMENT L**

## Risk Management Plan

Central Region Project Management Support Unit - *Caltrans Improves Mobility*

Thursday, April 29, 2010, 01:22 PM

Project  
1/1

## Risk Register Report

**Project 09-21340\_ / Risk ID 810**CO - RTE -  
PM INY - 395 - 30.8 / 41.8Project  
Manager Zemitis, Cedrik

Project Name Olancha/Cartago Four-Lane

Location IN INYO COUNTY NEAR OLANCHA FROM 1.5 MILES SOUTH OF LA AQUEDUCT BRIDGE #48-10 TO 0.4

Desc MILE SOUTH OF ASH CREEK BRIDGE #48-11

Work Desc CONSTRUCT 4 LANE EXPRESSWAY

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
04/27/2010	Brian Wesling	Environmental	Active	Threat		Cost
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Mitigate	Very Low	Low	0	0	Brian Wesling	PA&ED

Description	Extent of hazardous materials discovered late, additional mitigation is required
Trigger	Mitigation for Hazardous Materials identified late
Response	Complete the Preliminary Site Investigations early, right after the selection of the alternative. Identify extent of problems and mitigation strategies early so that RW acquisition is not impacted.
Common Risks	Design: Hazardous waste site analysis incomplete
Other Risks	

**Project 09-21340\_ / Risk ID 809**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
04/27/2010	Brian Wesling	Design	Active	Threat		Cost
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Mitigate	Very Low	Low	0	0	Design - Brian Wesling	PA&ED

Description	Material Site (MS 290) is located at the end of Fall road on the west side of the LA Aqueduct. Access is provided via Fall Road. County may not allow haul trucks on Fall Road due to loading and damage that may result.
Trigger	Inyo County disallows use of Fall Road for hauling material to and from MS 290.
Response	Negotiate early with Inyo County conditions of use for Fall Road. Develop alternative haul road access points; potentially School Street. Develop mutually acceptable mitigation strategies Between CT and Inyo County.
Common Risks	External: Local communities pose objections
Other Risks	

**Project 09-21340\_ / Risk ID 808**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
04/27/2010	Brian Wesling	Design, DES	Active	Threat		Cost
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Mitigate	High	Low	0	0	Design	PS&E

Description	Material Site (MS) 290 is located at the end of Fall Road on the west side of the LA Aqueduct. From the east, the best access point to MS 290 is over an old LADWP bridge. This bridge may not accommodate the heavy loads of the material hauling trucks. Bridge may need fortification and or replacement.
-------------	--

Trigger	LADWP Aqueduct bridge at Fall Road cannot bear construction loading. Restricted/reduced access to MS 290.
Response	Early identify those in LADWP who can assist with the assessment of the bridge, loading conditions and mitigation. Get concurrence from LADWP in writing w/ conditions of use. Work w/ ESC to develop mitigation strategy (temp bridge, fortification/retrofit, conveyor belt system, etc...)
Common Risks	Design: Unresolved constructability items
Other Risks	

**Project 09-21340\_ / Risk ID 696**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
01/01/1900	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
	Low	Very High	0	0	Sarah Gassner, Environmental Senior	PID

Description	Environmental Document challenged.
Trigger	Final Environmental document is challenged. This would occur after the Notice of Determination for the FED.
Response	Public outreach during environmental studies (Public Hearing, etc.) should allow for public input into the likely hood of this occurring. Providing the public accurate and complete information is essential.
Common Risks	
Other Risks	

**Project 09-21340\_ / Risk ID 695**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
01/01/1900	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
	Low	Moderate	0	0	Sarah Gassner, Environmental Senior	PID

Description	Work not covered by study area
Trigger	Project work extends beyond study area.
Response	Preferred response is avoidance. However, mitigation through early identification for possible workarounds or, upon team agreement, acceptance.
Common Risks	
Other Risks	

**Project 09-21340\_ / Risk ID 694**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
01/01/1900	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
	Low	Moderate	0	0	Sarah Gassner, Environmental Senior	PID

Description	Public controversy.
Trigger	There is public controversy over the project alternative(s).
Response	Public outreach during environmental studies (Public Hearing, etc.) would allow for public input for consideration in avoiding this risk. Providing the public accurate and complete information is essential.
Common Risks	
Other Risks	

**Project 09-21340\_ / Risk ID 693**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
11/28/2006	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Mitigate	Low	Moderate	0	0	Sarah Gassner, Environmental Senior	PID

Description Hazardous-waste investigation/cleanup delays Ready-to-list (RTL).

Trigger Hazardous-waste investigation/cleanup not complete by the time the project is RTL.

Response Mitigation through early identification and responding prior to schedule being impacted.

Common Risks Design: Hazardous waste site analysis incomplete

Other Risks

**Project 09-21340\_ / Risk ID 692**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
11/28/2006	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Avoid	Low	Moderate	0	0	Sarah Gassner, Environmental Senior	PID

Description External agency reviews delayed.

Trigger External Agency reviews do not occur within expected time frame.

Response Avoidance through accurate and complete communication with external agencies. Elimination of re-work or re-review by the agency. Timely response to inquiries.

Common Risks External: Permits or agency actions delays/taking longer than expected

Other Risks

**Project 09-21340\_ / Risk ID 691**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
11/28/2006	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Avoid	Low	Moderate	0	0	Tom Mills, Archaeologist	PID

Description MOA and Effects concurrence by SHPO delayed.

Trigger SHPO concurrence on MOA and Effects does not occur within expected time frame.

Response Avoidance through accurate and complete communication with SHPO. Elimination of re-work or re-review by agency. Timely response to SHPO inquiries. MOA through Director prior to SHPO submittal.

Common Risks External: Permits or agency actions delays/taking longer than expected

Other Risks

**Project 09-21340\_ / Risk ID 690**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
11/28/2006	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Avoid	Low	Low	0	0	Tom Mills, Archaeologist	PID

Description Concurrence on Phase II evaluations by SHPO delayed.

Trigger	SHPO concurrence on Phase II studies does not occur within expected time frame.					
Response	Avoidance through accurate and complete communication with SHPO. Elimination of re-work or re-evaluation by agency. Timely response to SHPO inquiries. Walk document through reviews.					
Common Risks	External: Reviewing agency requires longer than expected review time					
Other Risks						

**Project 09-21340\_ / Risk ID 689**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
11/28/2006	Cedrik Zemitis	Right of Way	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Mitigate	Low	Moderate	0	0	Nancy Escallier, RW Senior	PID

Description	Permits to Enter for environmental work (Phase II studies) not ready when needed.					
Trigger	Permits to Enter not available when needed.					
Response	Mitigation through early identification and workarounds - such as working in other areas until permit is obtained, etc.					
Common Risks	External: Permits or agency actions delays/taking longer than expected					
Other Risks						

**Project 09-21340\_ / Risk ID 688**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
11/28/2006	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Avoid	Moderate	Low	0	0	Tom Mills, Archaeologist	PID

Description	Archeological and historical sites will expand during Phase 3.					
Trigger	Selected alternative impacts identified site.					
Response	Avoidance of site preferred. Mitigation through early identification and communication with the local Tribe. Mitigate through establishment of ESA's, protection of site, re-burial, or Phase III.					
Common Risks	Environmental: Historic site, endang. species, riparian, wetlands, pub. park					
Other Risks						

**Project 09-21340\_ / Risk ID 687**

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
11/28/2006	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact (\$)	Impact (days)	Owner	Phase
Avoid	High	High	0	0	Tom Mills, Archaeologist	PID

Description	Archeological burial sites within footprint of selected alternative.					
Trigger	Selected alternative impacts identified burial site.					
Response	Avoidance of site preferred, however these sites are usually located when avoidance may not be an option. Mitigation through early identification and communication with the local Tribe. Mitigate through establishment of ESA's, protection of site, or re-burial.					
Common Risks	Environmental: Historic site, endang. species, riparian, wetlands, pub. park					
Other Risks						

**Project 09-21340\_ / Risk ID 6**

Date Identified	Entered By	Functional Unit Environmental	Status Active	Factor Threat	Priority	Type Schedule
Strategy Avoidance	Probability Moderate	Impact Low	Impact (\$)	Impact (days)	Owner Tom Mills	Phase PID

Description	1918 Influenza cemetery within footprint of selected alternative.					
Trigger	Selected alternative impacts identified site.					
Response	Avoidance of the site is preferred response through minor modifications to project plans. Mitigation through early identification, establishment of ESA's, protection of site, or re-burial.					
Common Risks						
Other Risks						

**Project 09-21340\_ / Risk ID 5**

Date Identified	Entered By	Functional Unit Right-of-Way	Status Active	Factor Threat	Priority	Type Schedule
Strategy Avoidance	Probability Low	Impact High	Impact (\$)	Impact (days)	Owner Nancy Escallier	Phase PID

Description	LADWP issues regarding bridge, wells, right of way.					
Trigger	Complications with bridge replacement are identified. Wells requiring relocation are encountered. Condemnation is required for Right of Way.					
Response	For schedule, avoidance should be the action taken. This would be accomplished through close coordination with LADWP. Mitigation through early identification is necessary for possible workarounds.					
Common Risks						
Other Risks						

**Project 09-21340\_ / Risk ID 1**

Date Identified	Entered By	Functional Unit Environmental	Status Active	Factor Threat	Priority	Type Schedule
Strategy Avoidance	Probability Very High	Impact Very High	Impact (\$)	Impact (days)	Owner Tom Mills	Phase PID

Description	Environmental contract is not in place for Phase II archeological studies (current on-call contract expires 12/31/2007)					
Trigger	Procurement timeline to get Task Order in place to begin Phase II studies is not being met.					
Response	This risk must be avoided. In order to avoid this risk, planning must occur to ensure that a contract is in place prior to being needed. Plans are extend current On-Call contract, have an On-Call contract ready to go when current expires (no lapse), or have project specific contract. All three should be pursued.					
Common Risks						
Other Risks						



# **ATTACHMENT M**

## Structures Advanced Planning Study

## Memorandum


*Flex your power!*  
*Be energy efficient!*

**To:** BRIAN WESLING  
Design Engineer  
Design Office I – Branch J  
Central Region - Project Development Division  
District 9

**Date:** August 18, 2008

**File:** 09-Iny-395-PM 29.2/41.8  
Olancho to Cartago Four Lane -  
Los Angeles Aqueduct  
09-213400

Attn: LEE SCOTese

**From:** MICHAEL DOWNS   
Technical Liaison Engineer  
Office of Bridge Design Services  
Structure Design  
Division of Engineering Services MS 9-1/5C

**Subject:** Advance Planning Study - Revision

This Advanced Planning Study transmittal replaces the previous transmittal dated August 15, 2008. A revision was necessary due to an incorrect summary of structure costs per alternative listed in the pervious transmittal.

The estimated construction cost, including 10% time related overhead, 10% mobilization and 25% contingencies, are as follows:

**Alternative 1, 2 & 3:**

Bridge Name	Br. No.	Estimated Cost
Los Angeles Aqueduct Bridge	48-0010L	\$1,069,000

**Alternative 4 (All West):**

Bridge Name	Br. No.	Estimated Cost
Los Angeles Aqueduct Bridge (Rte 395)	48-TBD R/L	\$2,138,000
Los Angeles Aqueduct Bridge (Rte 190 Extension)	48-TBD	\$1,019,000
Total Cost =		\$3,157,000

The following table summarizes the projected structure cost to midpoint of construction based on a 5.5% escalation rate:

Years Beyond Midpoint	Alt. 1, 2 & 3 Escalated Cost	Alt. 4 Escalated Cost
1	\$1,128,000	\$3,331,000
2	\$1,190,000	\$3,514,000
3	\$1,255,000	\$3,707,000
4	\$1,324,000	\$3,911,000
5	\$1,397,000	\$4,126,000

The escalated structure cost is provided for informational purposes only and does not replace annual cost updates as required by Department policy.

This Advance Planning Study and associated cost estimate is based on the following assumptions:

1. Traffic will be maintained on existing alignment during construction. Traffic control costs to be determined by District.
2. Route 395 stations not available. Tangent alignments and aqueduct skews assumed.
3. The required minimum vertical clearance is assumed to be at least 2'-0" above existing concrete channel wall and 3'-0" above original ground.
4. Due to limited access during construction, permanent steel deck forms are expected between precast/prestress concrete girders.
5. Cast-in-drilled-hole (16" diameter) pile foundations assumed at each structure.
6. No work assumed required for the existing Los Angeles Aqueduct Bridge (Br. No. 48-0010).
7. Removal and reconstruction cost of at-grade chain link railing along each side of the aqueduct to be determined by District.

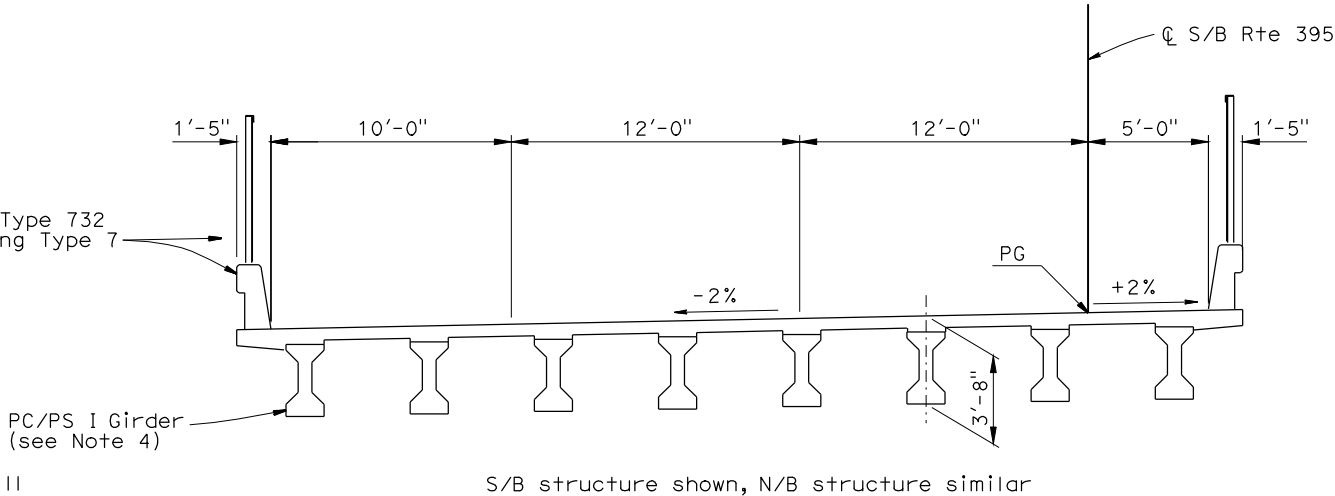
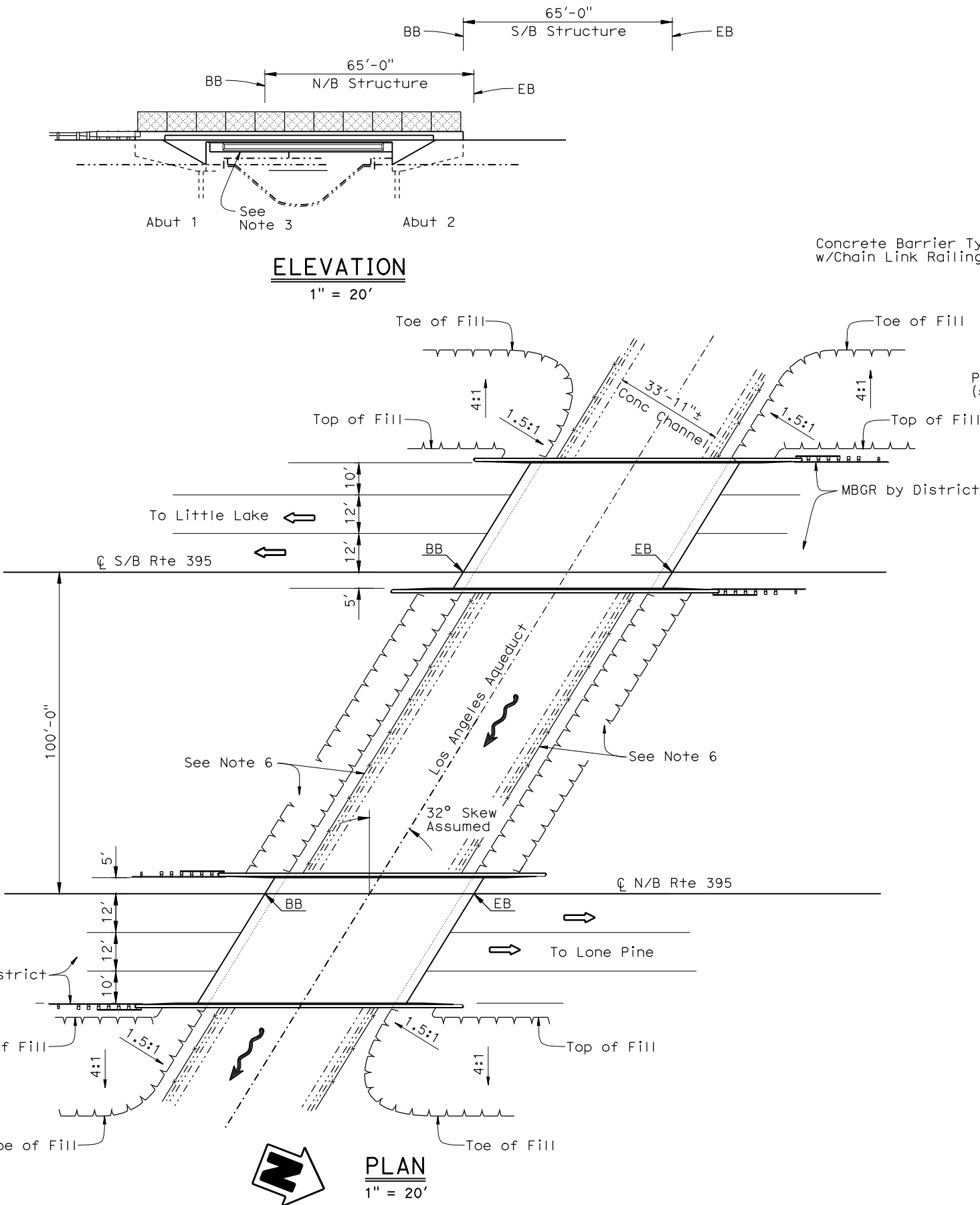
If you have any questions or if you need additional information regarding this cost estimate, please contact me at (916) 227-9365.

c: Andrew T S Tan, Project Coordination Engineer MS 9-5/12F  
Cedrik Zemitis, Project Manager – District 9

USERNAME => mdwns	DATE PLOTTED => 18-AUG-2008	TIME PLOTTED => 08:54
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DIST	COUNTY	ROUTE	POST MILE
09	Iny	395	29.2/41.8
To get to the Caltrans web site, go to: <a href="http://www.dot.ca.gov">http://www.dot.ca.gov</a>			



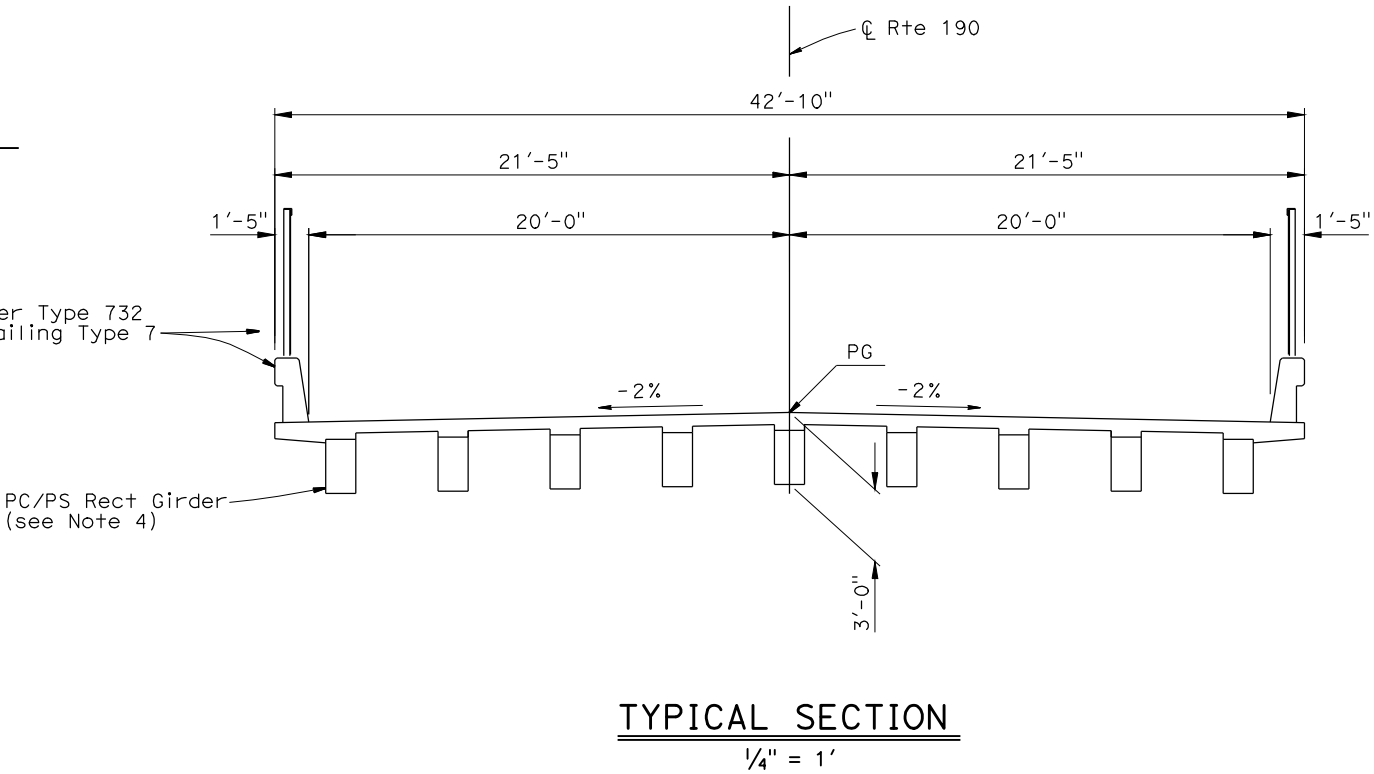
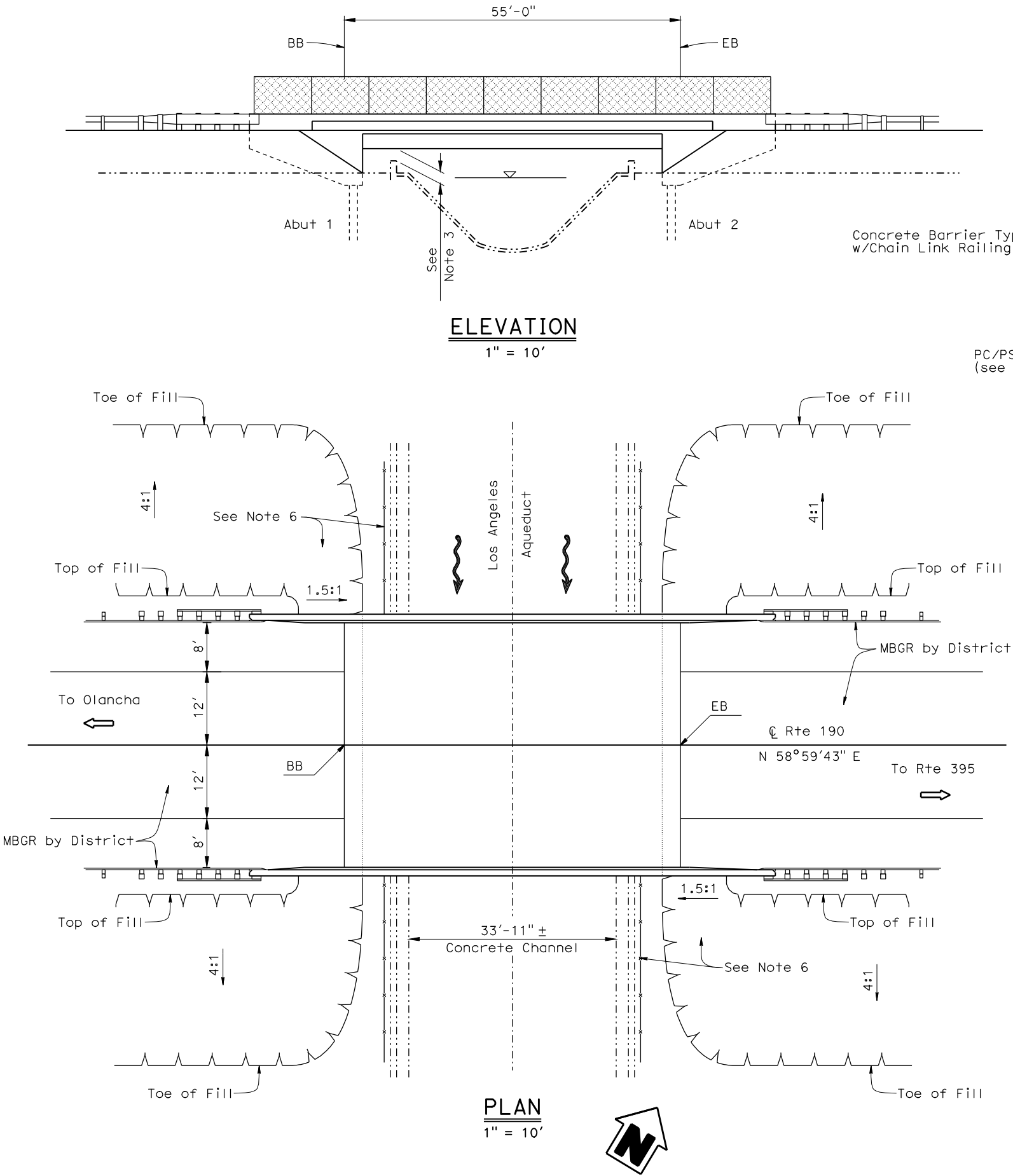
- Note:
1. New alignment. Traffic will be maintained on existing alignment during construction.
  2. Route 395 stations not available. Tangent alignment and aqueduct skew assumed.
  3. The required minimum vertical clearance is assumed to be at least 2'-0" above existing concrete channel wall and 3'-0" above OG.
  4. Due to limited access for deck form removal, permanent steel deck forms are expected between girders.
  5. CIDH pile foundations assumed.
  6. At-grade chain link fence removal and reconstruction by District.

DATE OF ESTIMATE	8-11-08
BRIDGE REMOVAL	= N/A
STRUCTURE DEPTH	= 3'-8"
LENGTH	= 65'-0"
WIDTH	= 83'-8"
AREA	= 5,438.3 sq.ft.
COST/□ft INCLUDING 10% TRO, 10% MOB & 25% CONTINGENCY	= \$393.14
TOTAL COST	= \$2,138,000

ALTERNATIVE 4 (All West)

DESIGNED BY M. DOWNS DATE 6/2008 DRAWN BY M. DOWNS DATE 6/2008 CHECKED BY X DATE X APPROVED X DATE X	STRUCTURE DESIGN	PLANNING STUDY	
		LOS ANGELES AQUEDUCT	
		BRIDGE NO. 48-TBD	CU 09
		SCALE: As Noted	EA 213400

DIST	COUNTY	ROUTE	POST MILE
09	Iny	395	29.2/41.8
To get to the Caltrans web site, go to: <a href="http://www.dot.ca.gov">http://www.dot.ca.gov</a>			



- Note:
1. New alignment. No traffic through construction site.
  2. Route 190 stations not available.
  3. The required minimum vertical clearance is assumed to be at least 2'-0" above existing concrete channel wall and 3'-0" above OG.
  4. Due to limited access for deck form removal, permanent steel deck forms are expected between girders.
  5. CIDH pile foundations assumed.
  6. At-grade chain link fence removal and reconstruction by District.

DATE OF ESTIMATE	8-11-08
BRIDGE REMOVAL	= N/A
STRUCTURE DEPTH	= 3'-0"
LENGTH	= 55'-0"
WIDTH	= 42'-10"
AREA	= 2,355.8 sq.ft.
COST/ □ft INCLUDING 10% TRO, 10% MOB & 25% CONTINGENCY	= \$432.55
TOTAL COST	= \$1,019,000

ALTERNATIVE 4 (Hwy 190 Ext)

DESIGNED BY <i>M. DOWNS</i>	DATE <i>6/2008</i>	<b>STRUCTURE DESIGN</b>	<b>PLANNING STUDY</b>	
DRAWN BY <i>M. DOWNS</i>	DATE <i>6/2008</i>		<b>LOS ANGELES AQUEDUCT</b>	
CHECKED BY <i>X</i>	DATE <i>X</i>		BRIDGE NO. <i>48-TBD</i>	CU <i>09</i>
APPROVED <i>X</i>	DATE <i>X</i>		SCALE: <i>As Noted</i>	EA <i>213400</i>

# **ATTACHMENT N**

## Relocation Impact Statement

# Relocation Impact Statement

(Exhibit 10-EX-3A; rev. 12/2005)

**To :** CEDRIK ZEMITIS  
Project Manager – Bishop 760-872-5250

**Attention :** Brian Wesling, Design Manager –Bishop  
Juergen Vespermann, Env. Manager – Fresno  
Matthew Palmer, Env. Planner – Fresno  
Barbie Barnes, Senior RW Agent, RAP – Fresno

**Date:** May 7, 2008**File:** Inyo 395-PM29.2/41.8

**Fed Aid No.** N/A  
**Const Fed Aid** N/A

**From :** Department of Transportation  
Right of Way, Central Region – Bishop

**EA** 09-21340k

**Subject :** Relocation Impact Statement for the project called “Olancho-Cartago 4-lane” which is located in Southern Inyo County on State Route 395 between the town of Lone Pine and the city of Ridgecrest, which is home to the China Lake Naval Weapons Center. Caltrans proposes to convert approximately 11 miles of existing two-lane conventional highway into a controlled access four-lane divided highway. The project will provide route continuity by connecting into the Sage Flat Four-Lane to the south and the Ash Creek Four-Lane to the north.

## 1. Purpose of the Relocation Impact Statement:

The purpose of this Relocation Impact Statement is to provide the Department of Transportation, local agencies and the public with information on the impact this project will have on residential and non-residential occupants within the preferred project alternative. Relocation impacts within the project area are non-complex and adequate relocation resources are available for displacements. All displacees will be treated in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and the California Relocation Act.

## 2. Summary of Residential and Non-Residential Displacements by Alternative:

	Alt. 1	Alt. 2	Alt. 2A	Alt. 3	Alt. 4
<b>Single Family Units</b>	7 total	6 total	7 total	4 total	1 total
<b>Mobile Homes</b>	5	4	5	3	1
<b>Multi-family Units</b>	None	None	None	None	None
<b>Estimated Total of Residential Displacements (Unit/Residents)</b>	7 units 21 residents (7/21)	6 units 18 residents (6/18)	7 units 21 residents (7/21)	4 units 12 residents (4/12)	1 unit 3 residents (1/3)



<b>Non-residential Displacements</b>	5 businesses	9 businesses	8 businesses	3 businesses	None
<b>(Business/Employees)</b>	(5/13)	(9/10)	(8/10)	(3/4)	(0/0)

The estimate of residential displacements is based on an average of 3.0 residents per household as determined by the Department of Finance Demographic Research Unit for January 2005 for Kern County, nearest information found to Inyo County. Estimate of employees is based on a visual survey of potentially affected businesses. Most business establishments were closed-down, not active or abandoned, and some resembled a storage facility with no employees present.

### 3. Summary of Relocation Resources Available to Displacees (residential and non-residential):

	For Rent	For Sale	Total Units
<b>Multi-family Residences (Apt's, Duplex, Triplex, and 4-plex's, Condo's)</b>	5	8	13
<b>One Bedroom Houses</b>	0	1	1
<b>Two Bedroom Houses</b>	2	16	18
<b>Three Bedroom Houses</b>	16	78	94
<b>Four, Five and 6 Bedroom Houses</b>	4	57	61
<b>Mobile Homes</b>	1	10	11
<b>Industrial/Commercial Properties</b>	1	13	14
<b>Vacant parcels, both residential and commercial</b>	0	89	89

### 4. Statement of Findings:

A thorough investigation of the real estate market was performed for that of the Lone Pine and Ridgecrest areas. To the north of the project limits is the town of Lone Pine. It would be the nearest full-service community in that direction. To the south of the project limits is the city of Ridgecrest. It would be the nearest full-service community, and the larger of the two communities, in that direction. The information found, at the time of this report, is outlined in above graph. These findings show that, at this time, there is available housing resources for any displacements due to this project. Careful review was given to the multiple listings provided by Coldwell Banker Best Realty- Ridgecrest Office, Coldwell Banker Bishop Real Estate- Bishop

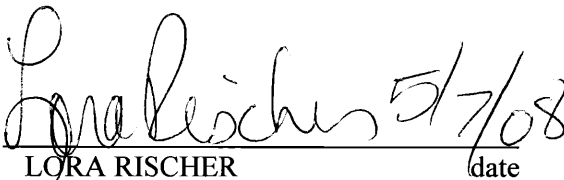
Office, who both specialize in their respective areas; plus, the classified ad section of the local newspaper, the Inyo Register.

## 5. Uniform Acquisition and Relocation Policy

All displacees will be contacted by a Relocation Agent, who will ensure that eligible displacees receive their full relocation benefits, including advisory assistance, and that all activities will be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies of 1970, as amended. Relocation resources shall be available to all displacees free of discrimination. At the time of the first written offer to purchase the owner-occupants are given a detailed explanation of Caltrans "Relocation Program and Services". Tenant-occupants of properties to be acquired are contacted soon after the first written offer to purchase is made, and are also given a detailed explanation of Caltrans "Relocation Program and Services". In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm, or non-profit organization displaced as a result of the acquisition of real property for public use.

**Updated Relocation Impact Statement for Project EA: 09-21340k called "Olancho/Cartago 4-Lane", Inyo 395, has been completed and is recommended for approval by the undersigned:**


Prepared by:

 5/7/08  
LORA RISCHER date

Associate Right of Way Agent  
Right of Way, Central Region -Bishop

**The undersigned has reviewed and approve this Updated Relocation Impact Statement:**

Approved by:

 5/7/08  
NANCY ESCALLIER date

Field Office Chief, Right of Way  
Central Region – Bishop Field Office

# **ATTACHMENT O**

## Mitigation Cost Compliance Estimates

# **Central Region Environmental Division Mitigation Cost Compliance Estimate Form (MCCE)**

This MCCE is for: **Draft ED**

Dist - Co - Rte - PM: <u>09-INY-395-30.8 / 41.8</u>	EA: <u>09-21340_</u>
Project Name: <u>Olancho/Cartago Four-Lane</u>	Alternative #: <u>Alternative 1</u>
Project Description: <u>CONSTRUCT 4 LANE EXPRESSWAY</u>	(If applicable)
Environmental Manager: <u>Sarah Gassner</u>	Phone Number: <u>559-243-8243</u>
Design Manager: <u>Brian Wesling</u>	Phone Number: <u>(760) 872-0630</u>
Design Engineer: _____	Phone Number: _____
Project Manager: <u>Cedrik Zemitis</u>	Phone Number: <u>(760) 872-5250</u>
Date: _____	
MCCE Prepared By: <u>Juan Torres</u>	Phone Number: _____

	Right of Way Capital (Prior to Construction 050-\$'s)	Construction Capital (During & Post Construction 042 \$'s)
Archaeological	\$ 1,600,000	
Historical		
Paleontology		
Hazardous Waste		\$480,000
Air Emissions		
Biological		
Mitigation parcels (# of acres only)	558	
Mitigation/Bank Credits (\$-only)	\$1,116,000	
Monitoring		\$226,155
Permit Fees		
401 Permit Fee	\$0	
404 Permit Fee	\$5,000	
1600 Permit Fee	\$4,000	
Coastal Development Permit Fee	\$0	
DFG Fee	\$2,606.75	
Bat/Swallow Exclusion		
Other: <u>desert tortoise fencing</u>		\$128,747.52
<b>TOTAL</b>	<b>\$ 2,727,606.75</b>	<b>\$834,902.52</b>

Approved By:   
Environmental Branch Chief

Date: 7/11/08

This form is completed as part of the PEAR for all candidate projects, at completion of the Draft Environmental Document, at completion of the Final Environmental Document, and during preparation of the PS&E

This form is to be completed for all SHOPP, STIP, and Minor A & B projects (even those without mitigation).

Include all costs necessary to complete the commitment including: capital outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting by consultants during the construction phase; and any follow-up maintenance post construction.

Timing of Enhancement/Endowment funds will depend on which agency is requiring the mitigation. Funds may need to be available as 050 or as 042.

# Central Region Environmental Division Mitigation Cost Compliance Estimate Form (MCCE)

This MCCE is for: Draft ED

Dist - Co - Rte - PM: <u>09-INY-395-30.8 / 41.8</u>	EA: <u>09-21340_</u>
Project Name: <u>Olancho/Cartago Four-Lane</u>	Alternative #: <u>Alternative 2</u>
Project Description: <u>CONSTRUCT 4 LANE EXPRESSWAY</u>	(If applicable)
Environmental Manager: <u>Sarah Gassner</u>	Phone Number: <u>559-243-8243</u>
Design Manager: <u>Brian Wesling</u>	Phone Number: <u>(760) 872-0630</u>
Design Engineer: _____	Phone Number: _____
Project Manager: <u>Cedrik Zemitis</u>	Phone Number: <u>(760) 872-5250</u>
Date: _____	
MCCE Prepared By: <u>Matthew Palmer</u>	Phone Number: _____

	Right of Way Capital (Prior to Construction 050-\$'s)	Construction Capital (During & Post Construction 042 \$'s)
Archaeological	<u>\$ 1,200,000</u>	
Historical		
Paleontology		
Hazardous Waste		<u>\$480,000</u>
Air Emissions		
Biological		
Mitigation parcels (# of acres only)	<u>621</u>	
Mitigation/Bank Credits (\$-only)	<u>\$1,242,000</u>	
Monitoring		<u>\$226,155</u>
Permit Fees		
401 Permit Fee	<u>\$0</u>	
404 Permit Fee	<u>\$5,000</u>	
1600 Permit Fee	<u>\$4,000</u>	
Coastal Development Permit Fee	<u>\$0</u>	
DFG Fee	<u>\$2,606.75</u>	
Bat/Swallow Exclusion		
Other: <u>desert tortoise fencing</u>		<u>\$128,747.52</u>
<b>TOTAL</b>	<b><u>\$ 2,453,606.75</u></b>	<b><u>\$834,902.52</u></b>

Approved By: 

Environmental Branch Chief

Date: 7/11/08

This form is completed as part of the PEAR for all candidate projects, at completion of the Draft Environmental Document, at completion of the Final Environmental Document, and during preparation of the PS&E

This form is to be completed for all SHOPP, STIP, and Minor A & B projects (even those without mitigation).

Include all costs necessary to complete the commitment including: capital outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting by consultants during the construction phase; and any follow-up maintenance post construction.

Timing of Enhancement/Endowment funds will depend on which agency is requiring the mitigation. Funds may need to be available as 050 or as 042.



# Central Region Environmental Division Mitigation Cost Compliance Estimate Form (MCCE)

This MCCE is for: **Draft ED**

Dist - Co - Rte - PM: <u>09-INY-395-30.8 / 41.8</u>	EA: <u>09-21340</u>
Project Name: <u>Olancho/Cartago Four-Lane</u>	Alternative #: <u>Alternative 2A</u>
Project Description: <u>CONSTRUCT 4 LANE EXPRESSWAY</u>	(If applicable)
Environmental Manager: <u>Sarah Gassner</u>	Phone Number: <u>559-243-8243</u>
Design Manager: <u>Brian Wesling</u>	Phone Number: <u>(760) 872-0630</u>
Design Engineer: _____	Phone Number: _____
Project Manager: <u>Cedrik Zemitis</u>	Phone Number: <u>(760) 872-5250</u>
Date: _____	
MCCE Prepared By: <u>Matthew Palmer</u>	Phone Number: _____

	Right of Way Capital (Prior to Construction 050-\$'s)	Construction Capital (During & Post Construction 042 \$'s)
Archaeological	\$ 760,000	
Historical		
Paleontology		
Hazardous Waste		\$480,000
Air Emissions		
Biological		
Mitigation parcels (# of acres only)	621	
Mitigation/Bank Credits (\$-only)	\$1,242,000	
Monitoring		\$226,155
Permit Fees		
401 Permit Fee		
404 Permit Fee	\$5,000	
1600 Permit Fee	\$4,000	
Coastal Development Permit Fee		
DFG Fee	\$2,606.75	
Bat/Swallow Exclusion		
Other: desert tortoise fencing		\$128,747.52
<b>TOTAL</b>	<b>\$ 2,013,606.75</b>	<b>\$834,902.52</b>

Approved By: Sarah Gassner

Environmental Branch Chief

Date: 7/11/08

This form is completed as part of the PEAR for all candidate projects, at completion of the Draft Environmental Document, at completion of the Final Environmental Document, and during preparation of the PS&E

This form is to be completed for all SHOPP, STIP, and Minor A & B projects (even those without mitigation).

Include all costs necessary to complete the commitment including: capital outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting by consultants during the construction phase; and any follow-up maintenance post construction.

Timing of Enhancement/Endowment funds will depend on which agency is requiring the mitigation. Funds may need to be available as 050 or as 042.

# Central Region Environmental Division Mitigation Cost Compliance Estimate Form (MCCE)

This MCCE is for: **Draft ED**

Dist - Co - Rte - PM: <u>09-INY-395-30.8 / 41.8</u>	EA: <u>09-21340_</u>
Project Name: <u>Olancho/Cartago Four-Lane</u>	Alternative #: <u>Alternative 3</u>
Project Description: <u>CONSTRUCT 4 LANE EXPRESSWAY</u>	(If applicable)
Environmental Manager: <u>Sarah Gassner</u>	Phone Number: <u>559-243-8243</u>
Design Manager: <u>Brian Wesling</u>	Phone Number: <u>(760) 872-0630</u>
Design Engineer: _____	Phone Number: _____
Project Manager: <u>Cedrik Zemitis</u>	Phone Number: <u>(760) 872-5250</u>
Date: _____	
MCCE Prepared By: <u>Matthew Palmer</u>	Phone Number: _____

	Right of Way Capital (Prior to Construction 050-\$'s)	Construction Capital (During & Post Construction 042 \$'s)
Archaeological	<u>\$ 1,000,000</u>	
Historical		
Paleontology		
Hazardous Waste		<u>\$480,000</u>
Air Emissions		
Biological		
Mitigation parcels (# of acres only)	<u>624</u>	
Mitigation/Bank Credits (\$-only)	<u>\$1,248,000</u>	
Monitoring		<u>\$226,155</u>
Permit Fees		
401 Permit Fee		
404 Permit Fee	<u>\$5,000</u>	
1600 Permit Fee	<u>\$4,000</u>	
Coastal Development Permit Fee		
DFG Fee	<u>\$2,606.75</u>	
Bat/Swallow Exclusion		
Other: <u>desert tortoise fencing</u>		<u>\$135,184.9</u>
<b>TOTAL</b>	<b><u>\$2,259,606.75</u></b>	<b><u>\$841,339.9</u></b>

Approved By:   
Environmental Branch Chief

Date: 7/11/08

This form is completed as part of the PEAR for all candidate projects, at completion of the Draft Environmental Document, at completion of the Final Environmental Document, and during preparation of the PS&E

This form is to be completed for all SHOPP, STIP, and Minor A & B projects (even those without mitigation).

Include all costs necessary to complete the commitment including: capital outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting by consultants during the construction phase; and any follow-up maintenance post construction.

Timing of Enhancement/Endowment funds will depend on which agency is requiring the mitigation. Funds may need to be available as 050 or as 042.

# **Central Region Environmental Division Mitigation Cost Compliance Estimate Form (MCCE)**

This MCCE is for: **Draft ED**

Dist - Co - Rte - PM: <u>09-INY-395-30.8 / 41.8</u>	EA: <u>09-21340</u>
Project Name: <u>Olancho/Cartago Four-Lane</u>	Alternative #: <u>Alternative 4</u>
Project Description: <u>CONSTRUCT 4 LANE EXPRESSWAY</u>	(If applicable)
Environmental Manager: <u>Sarah Gassner</u>	Phone Number: <u>559-243-8243</u>
Design Manager: <u>Brian Wesling</u>	Phone Number: <u>(760) 872-0630</u>
Design Engineer: _____	Phone Number: _____
Project Manager: <u>Cedrik Zemitis</u>	Phone Number: <u>(760) 872-5250</u>
Date: _____	
MCCE Prepared By: <u>Matthew Palmer</u>	Phone Number: _____

	Right of Way Capital (Prior to Construction 050-\$'s)	Construction Capital (During & Post Construction 042 \$'s)
Archaeological	\$ 1,200,000	
Historical		
Paleontology		
Hazardous Waste		\$480,000
Air Emissions		
Biological		
Mitigation parcels (# of acres only)	1234.5	
Mitigation/Bank Credits (\$-only)	\$2,469,000	
Monitoring		\$226,155
Permit Fees		
401 Permit Fee	\$0	
404 Permit Fee	\$5,000	
1600 Permit Fee	\$4,000	
Coastal Development Permit Fee	\$0	
DFG Fee	\$2,606.75	
Bat/Swallow Exclusion		
Other: <u>desert tortoise fencing</u>		\$314,143
<b>TOTAL</b>	<b>\$ 3,689,606.75</b>	<b>\$1,020,298</b>

Approved By: Sarah Gassner

Environmental Branch Chief

Date: 7/11/08

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This form is to be completed for all SHOPP, STIP, and Minor A & B projects (even those without mitigation).

Include all costs necessary to complete the commitment including: capital outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting by consultants during the construction phase; and any follow-up maintenance post construction.

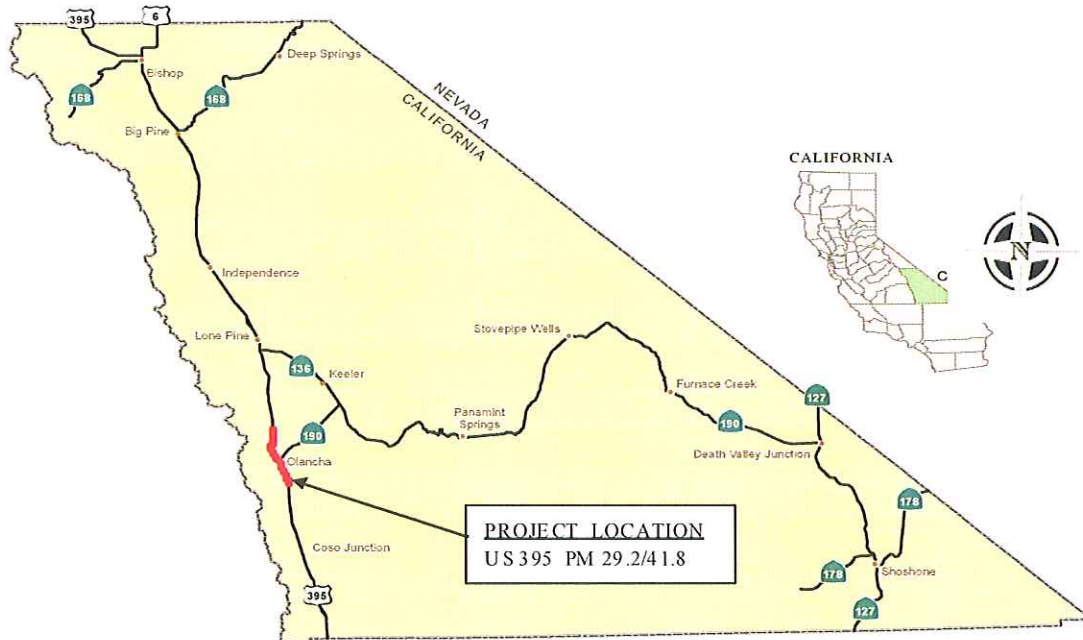
Timing of Enhancement/Endowment funds will depend on which agency is requiring the mitigation. Funds may need to be available as 050 or as 042.



# **ATTACHMENT P**

## Noise Abatement Decision Report (NADR)

# OLANCHA-CARTAGO FOUR-LANE EXPRESSWAY



## Noise Abatement Decision Report

(Noise Study Report updated April 23, 2010)

On U.S. Highway 395 in Inyo County between 2.1 miles south of Los Angeles Aqueduct Bridge No. 48-010 and 0.2 miles south of Ash Creek Bridge No. 48-011

09-Iny-395-PM 29.2/41.8  
09-213400

April 2010



# Noise Abatement Decision Report

(Noise Study Report updated April 23, 2010)

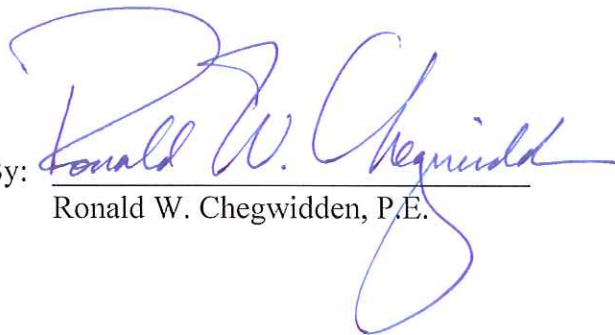
## Olancha-Cartago Four-Lane Expressway

On U.S. Highway 395 in Inyo County between 2.1 miles south of Los Angeles Aqueduct  
Bridge No. 48-010 and 0.2 miles south of Ash Creek Bridge No. 48-011

09-Iny-395-PM 29.2/41.8  
09-213400

April 2010

Prepared By:

  
Ronald W. Chegwidden, P.E.



Concurred:



Brian Wesling, Design Manager  
Design 1, Branch J  
Caltrans District 9

Date:



## **List of Abbreviated Terms**

Caltrans	California Department of Transportation
dB	A measure of sound pressure level on a logarithmic scale
dBA	Unit of sound pressure level in decibels on the “A-weighted” scale
ED	Environmental document
FHWA	Federal Highway Administration
Benefited residence	A dwelling unit expected to receive a noise reduction of at least 5 dBA from the proposed noise abatement measure
Critical design receiver	The design receiver that is impacted and for which the absolute noise levels, build vs. existing, or achievable noise reduction will be at a maximum where noise abatement is considered.
Planned, designed, and programmed	A noise-sensitive land use is considered planned, designed, and programmed when it has received final development approval (generally the issuance of a building permit) from the local agency with jurisdiction.
Date of public knowledge	The date that a project is approved – approval of the final environmental documentation (e.g., Record of Decision) is complete.
NSR	Noise Study Report
NADR	Noise Abatement Decision Report
NAC	Noise Abatement Criteria
Reasonable allowance	A reasonable allowance (a single dollar value) per benefited residence that embodies the five reasonableness factors.



# 1. Introduction

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The Noise Abatement Decision Report presents the preliminary noise abatement decision as defined in the Caltrans Traffic Noise Analysis Protocol. This report has been approved by a California licensed professional civil engineer. The project level Noise Study Report – *Noise Impact Technical Report for Inyo-395, dated July 24, 2003, and the Noise Study Reevaluation for Inyo-395, dated April 23, 2010* - prepared for this project are hereby incorporated by reference.

## 1.1. Noise Abatement Assessment Requirements

Title 23, Code of Federal Regulations (CFR), Part 772 of the Federal Highway Administration (FHWA) standards (23 CFR 772) and the Caltrans Traffic Noise Analysis Protocol (Protocol) require that noise abatement be considered for projects that are predicted to result in traffic noise impacts. A traffic noise impact is considered to occur when future predicted design-year noise levels “approach or exceed” Noise Abatement Criteria (NAC) defined in 23 CFR 772 or when the predicted design-year noise levels substantially exceed existing noise levels. A predicted design-year noise level is considered to “approach” the NAC when it is within 1 dB of the NAC. A substantial increase is defined as being a 12-dB increase above existing conditions.

23 CFR 772 requires that noise abatement measures that are reasonable and feasible and are likely to be incorporated into the project be identified before the final environmental document is adopted.

The Protocol establishes a process for assessing the reasonableness and feasibility of noise abatement. Before publication of the draft environmental document, a *preliminary noise abatement decision* is made. The preliminary noise abatement decision is based on the *feasibility* of evaluated abatement and the *preliminary reasonableness determination*. Noise abatement is considered to be acoustically feasible if it provides noise reduction of at least 5 dBA at receivers subject to noise impacts. Other nonacoustical factors relating to geometric standards (e.g., sight distances), safety, maintenance, and security can also affect feasibility.

The preliminary reasonableness determination is made by calculating an allowance that is considered to be a reasonable amount of money, per benefited residence, to spend on abatement. This *reasonable allowance* is then compared to the engineer’s cost estimate for the abatement. If the engineer’s cost estimate is less than the allowance, the preliminary determination is that the abatement is reasonable. If the cost estimate is higher than the allowance, the preliminary determination is that abatement is not reasonable.

The Noise Abatement Decision Report (NADR) presents the preliminary noise abatement decision based on acoustical and nonacoustical feasibility factors and the relationship between noise abatement allowances and the engineer's cost estimate. The NADR does not present the final decision regarding noise abatement; rather, it presents key information on abatement to be considered throughout the environmental review process, based on the best available information at the time the draft environmental document (ED) is published. The final overall reasonableness decision will take this information into account, along with other reasonableness factors identified during the environmental review process. These factors may include:

- impacts of abatement construction,
- public and local agency input,
- life cycle of abatement measures,
- views/opinions of impacted residents, and
- social, economic, environmental, legal, and technological factors.

At the end of the public review process for the ED, the final noise abatement decision is made and is indicated in the final ED. The preliminary noise abatement decision will become the final noise abatement decision unless compelling information received during the environmental review process indicates that it should be changed.

## **1.2. Purpose of the Noise Abatement Decision Report**

The purpose of the NADR is to:

- summarize the conclusions of the Noise Study Report (NSR) relating to acoustical feasibility and the reasonable allowances for abatement evaluated,
- present the engineer's cost estimate for evaluated abatement,
- present the engineer's evaluation of nonacoustical feasibility issues,
- present the preliminary noise abatement decision, and
- present preliminary information on secondary effects of abatement (impacts on cultural resources, scenic views, hazardous materials, biology, etc.).



The NADR does not address noise barriers or other noise-reducing treatments required as mitigation for significant adverse environmental effects identified under the California Environmental Quality Act (CEQA).

### **1.3. Project Description**

The State of California, Department of Transportation, is proposing to upgrade U.S. Highway 395 (U.S. 395) from two-lane conventional highway to four-lane divided expressway, or a combination of four-lane conventional highway and divided expressway. The proposed project begins at PM 29.2, south of the community of Olancho, and ends at PM 41.8, north of the community of Cartago. The primary purpose of the project is to improve safety for the traveling public by separating opposing traffic, reducing access points, and widening existing shoulders. The project would also provide increased capacity, improve Level of Service by easing peak traffic congestion and reducing time spent following, improve drainage, and provide facility continuity between existing sections of four-lane divided expressway on either side of the proposed project.

There are five viable Build Alternatives, and a No-Build Alternative that are being considered:

Alternative 1 would construct a combination of controlled access four-lane expressway and four-lane conventional highway. The expressway would be divided by a 100 foot graded median and the conventional highway would be separated by a 14 foot paved median. The new facility would follow the existing highway alignment, with the existing lanes being incorporated into the new facility.

Alternative 2 would construct a controlled access four-lane expressway divided by a 100 foot graded median. Through Olancho, the new facility would be constructed adjacent to the existing highway alignment, with the existing facility being relinquished as a local frontage road. The remainder of the project would utilize the existing alignment, with the existing lanes being incorporated into the new facility.

Alternative 2A would also construct a controlled access four-lane expressway divided by a 100 foot graded median. It would be similar to Alternative 2, except that the proposed alignment would diverge from the existing alignment and pass to the west of Cartago and then rejoin the existing alignment. The existing facility through both Olancho and Cartago would then be relinquished as a local frontage road.

Alternative 3 would construct a divided four-lane expressway as well. However, the proposed alignment for this alternative would travel west of Olancho and return to the existing alignment south of Cartago. The remainder of the project through Cartago and to the north would follow the existing alignment, similar to Alternative 2. Due to the separation from the existing alignment, this alternative would require an extension of State Route 190.

Alternative 4 would construct a divided four-lane expressway to the west of both Olancho and Cartago. North of Cartago, the proposed alignment would return to the existing alignment and follow it for the remainder of the project. This alternative would require an extension of State Route 190 as well.

#### **1.4. Affected Land Uses**

Over 98 percent of the lands within the project area are large vacant parcels owned by public agencies. Most of the parcels are designated as open space or public. Some of the parcels adjacent to the Owens Dry Lake are used for irrigated pasture or other agricultural uses.

The remaining two percent of private lands are located largely within the communities of Olancho and Cartago and are designated residential or open space. The residential parcels are generally centered along the existing highway corridor, although there is scattered development in Olancho west of the existing highway. There are a significant number of commercial parcels located along the existing highway corridor as well.

At the beginning of the project, the proposed alternatives travel through a large portion of land owned by the Bureau of Land Management. Except for a few residential parcels sprinkled along the highway, the majority of the land is vacant and undeveloped. As the alternatives pass through Olancho and Cartago, more residential and commercial parcels are encountered, mostly along the existing highway corridor. Once past Cartago, most of the land is again vacant and undeveloped parcels owned the Bureau of Land Management or the State of California.



## 2. Results of the Noise Study Report

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The NSR for this project was prepared by Christopher J. Bassar on July 24, 2003 and approved by Agnes R. Jenkins, Chief of Central California Environmental Engineering Branch. The NSR was updated by Kenneth J. Romero, Chief of Central Region Environmental Engineering Branch on April 23, 2010. The update evaluated two additional alternatives that were not in the original noise study. It also remodeled the noise levels to reflect a higher truck percentage and included several additional receivers that were not identified in the original noise study.

The population density in the project study area is relatively low, and mainly consists of single-family residences. There are a few small local businesses along existing U.S. Highway 395. There are no schools or parks within the project study area.

The existing noise levels were evaluated at 45 representative locations selected because of their proximity to the proposed alternatives and adjacent receptors. They ranged between 39 dB and 63 dB. Overall, the existing noise levels at all receivers were relatively low, with an average noise level of approximately 51 dB. There were, however, a number of receivers that had existing noise levels near 60 dB. In general, these receivers were businesses or single family residences that were located adjacent to the existing highway.

The predicted noise levels for Design Year 2034 were determined using the TNM 2.5 noise model. All noise levels were rounded to the nearest decibel for comparison purposes. The predicted noise levels for the No-Build alternative were determined as well. Based upon the predicted noise levels, there are five receivers that would experience substantial noise increases (over 12 dB) and three receivers that are approaching or over the NAC. There were no receivers that would experience severe noise increases (exceeding 30 dB). The existing and predicted noise levels for the substantially affected receivers have been summarized in Table 2-1.

**Table 2-1. Existing and Predicted Noise Levels**

Receiver	Type	NAC	Existing Noise Level (dBA)	Predicted Noise Level (dBA)	Increase over existing	Alternative(s)
7	Residential	67	63	68	5	2, 2A
9	Residential	67	40	54	14	3
12	Residential	67	41	57	16	3
17	Residential	67	63	66	3	1
19	Residential	67	61	67	6	2, 2A
36	Residential	67	40	56	16	3
37	Residential	67	40	58	18	3
45	Residential	67	39	62	23	3

The updated NSR determined that only three of the substantially affected receivers could be abated with an exterior barrier. A soundwall was proposed as abatement for Receivers 36, 37, and 45 and was delineated as Barrier 3C. The wall would be 1,308 feet long and the proposed location has been shown in Appendix A. Various heights of wall were evaluated for acoustic feasibility (reduction of noise impact by at least 5 dB) and reasonable allowances were calculated based upon the number of receivers that would benefit. The results of the acoustic feasibility analysis and the reasonable allowances are presented in Table 2-2.

**Table 2-2. Barrier Evaluation Summary**

Barrier	Receiver / Location	Length (ft)	Height (ft)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance
3C	36,37,45 E. edge of ROW	1,308	10.0	No	0	N/A
			12.0	Yes	1	\$53,000
			14.0	Yes	1	\$53,000
			16.0	Yes	1	\$53,000
			18.0	Yes	2	\$104,000
			20.0	Yes	2	\$104,000

ROW = right-of-way line

### 3. Preliminary Noise Abatement Decision

#### 3.1. Summary of Key Information

As indicated in Section 2, Barrier 3C was the only soundwall that was acoustically feasible. The wall was modeled at several different heights and the number of benefited residences varied with the proposed height. (see Table 2-2) An engineer's estimate of cost was prepared for each height and compared to the reasonable allowance for that height to determine if the soundwall was reasonable to construct. The engineer's estimate was based upon constructing a masonry block soundwall on a concrete spread footing, in accordance with Caltrans 2006 Standard Plans B15-1 and B15-2. The estimated cost includes the cost of the wall, concrete footings, grading and drainage, miscellaneous items, and a contingency. A summary of the key abatement information is provided in Table 3-1 below.

**Table 3-1. Summary of Key Abatement Information**

Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?
3C	10	No	0	\$0	NA	N/A
	12	Yes	1	\$53,000	\$525,098	No
	14	Yes	1	\$53,000	\$605,287	No
	16	Yes	1	\$53,000	\$694,269	No
	18	Yes	2	\$104,000	\$783,251	No
	20	Yes	2	\$104,000	\$881,025	No

As indicated in Table 3-1, while Barrier 3C may be acoustically feasible, the estimated costs of construction significantly exceed the reasonable allowance for any given height. Alternative construction with precast concrete panels or poured in place concrete was also considered, but their cost was generally higher than masonry block wall soundwall. Timber soundwalls were not considered due to their relatively short service life and higher maintenance costs.



## 3.2. Nonacoustical Factors Relating to Feasibility

### Geometric Standards

Barrier 3C would generally follow the eastern edge of the proposed right of way and would be located between 33 and 50 feet east of the east edge of traveled way. In this area, the proposed expressway is in a relatively flat horizontal curve ( $R = 4,921$  ft) and the required lateral clearance to obstructions to provide adequate stopping sight distance is 18 feet. Since the proposed wall would be located greater than 18 feet beyond the edge of traveled way, it would not present a sight distance issue for the new expressway.

A portion of the proposed wall may run adjacent to Summer Road, which is a local road. At this location, Summer Road is in a sharp ( $90^\circ$ ) horizontal curve. The roadway is also in a slight crest vertical curve as it passes through this curve, but due to the proposed height of the wall, there would be adequate sight distance for approaching vehicles.

### Safety

The proposed soundwall would be outside of the required Clear Recovery Zone and would not pose a safety concern for the new expressway. However, the location of the proposed soundwall may be relatively close to the western edge of traveled way and could restrict the shoulder width for the local roadway. Metal beam guard rail could be constructed in the western shoulder of Summer Road to reduce the potential for collisions with the new soundwall.

### Drainage

Near the southern end of the proposed wall, there is an existing drainage channel that carries storm water flows from an overchute that crosses the L.A. Aqueduct. A culvert will be required to carry the storm water under the proposed wall.

### Environmental

The area where the wall would be located has been studied for environmental resources and there are no apparent resources that would be adversely affected. The only potential impact would be a visual impact as the wall would obstruct the view of the Sierra Nevada Mountains for the residents on Summer Road.

### Maintenance

Since the wall would be placed within the State right of way, the proposed soundwall would be maintained by the State. Maintenance required for the wall would be minimal.

### Security

A right of way fence would be constructed along the new right of way to control access to the expressway. The soundwall would not interfere with the right of way fence and could be attached to the right of way fence, if necessary. Due to the relatively short length, there would be no need for access openings.

### Geotechnical Considerations

The soundwall would be located on alluvial fan deposits made up of poorly sorted silty sand, sand, and gravel with scattered cobbles and boulders. The existing soils are anticipated to be suitable for the proposed spread footing foundation.

### Utility Relocations

There are no utilities in the vicinity of the soundwall and no relocations will be required.

## **3.3. Preliminary Recommendation and Decision**

### Barrier 3C

While Barrier 3C may be feasible to construct, the costs for construction of the barrier wall are significantly higher than the reasonable allowances for the benefited receivers. As a result, Barrier 3C is not reasonable to construct and is not recommended at this location.

The preliminary noise abatement decision presented in this report is based on preliminary project alignments and profiles, which may be subject to change. As such, the physical characteristics of noise abatement described herein also may be subject to change. If pertinent parameters change substantially during the final project design, the preliminary noise abatement decision may be changed or eliminated from the final project design. A final decision to construct noise abatement will be made upon completion of the project design.

The preliminary noise abatement decision presented here will be included in the draft environmental document, which will be circulated for public review.

## 4. Secondary Effects of Abatement

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Since there are no barrier walls that are reasonable to construct, there are no secondary effects of abatement that need to be considered.

## 5. References

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California Department of Transportation. July 24, 2003. Noise Impact Technical Report for Inyo-395.

California Department of Transportation. April 23, 2010. Noise Study Reevaluation for the Inyo-395.

California Department of Transportation. Highway Design Manual, Sixth Edition.

California Department of Transportation. December 1999. Preliminary Geotechnical Report for Olancho/Cartago Four-Lane PSR.

## **Appendix A** Barrier 3C Location

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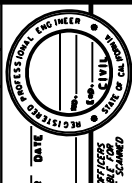
The following exhibit shows the proposed location of Barrier 3C.

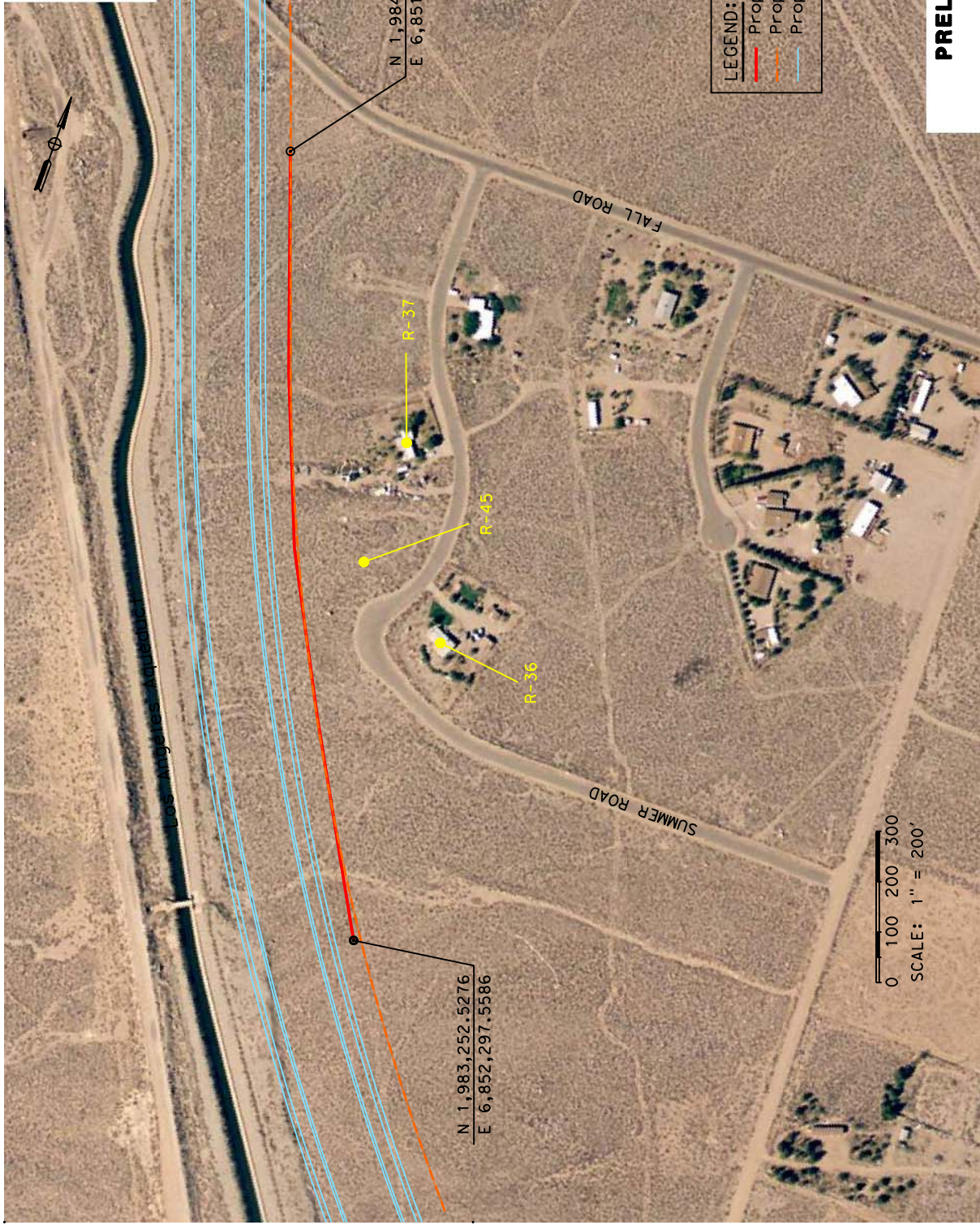


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		FUNCTIONAL SUPERVISOR		CALCULATED BY	DESIGNED BY	CHECKED BY	DATE REVIS	REVIS	DATE REVIS
Barrier 3C.dgn		5/3/2010 12:08:31 PM		BORDER LAST REVISED 4/11/2008		Barrier 3C.dgn		5/3/2010 12:08:31 PM	

DATE	COUNTY	ROUTE	POST MILES	SHEET TOTAL
REGISTERED CIVIL ENGINEER		DATE	TOTAL PROJECT SHEETS	

PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS  
 THE ACTUARY OR COMPLETENESS OF SCANNED  
 COPIES OF THIS PLAN SHEET.





- LEGEND:**
- Proposed Barrier 3C
  - Proposed R/W Line US 395
  - Proposed New Lanes US 395

## PRELIMINARY LAYOUT BARRIER 3C

## **Appendix B** Engineer's Estimate

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The engineer's estimate of preliminary cost is attached.

**Barrier 3C**  
**Preliminary Estimate of Cost**

Wall Height (FT)	Footing Width (FT)	Area of Wall (SQFT)	Volume of Concrete (CY)	Masonry Wall Cost	Concrete Footing Cost	Misc. Costs	Cont.	Total
10.0	5.00	13080.0	242.2	\$222,360	\$145,333	\$36,769	\$40,446	\$444,909
12.0	5.75	15696.0	278.6	\$266,832	\$167,133	\$43,397	\$47,736	\$525,098
14.0	6.50	18312.0	314.9	\$311,304	\$188,933	\$50,024	\$55,026	\$605,287
16.0	7.50	20928.0	363.3	\$355,776	\$218,000	\$57,378	\$63,115	\$694,269
18.0	8.50	23544.0	411.8	\$400,248	\$247,067	\$64,731	\$71,205	\$783,251
20.0	9.75	26160.0	472.3	\$444,720	\$283,400	\$72,812	\$80,093	\$881,025

Notes: - Footing sizes for H=18 and H=20 not provided on SP B15-1.

Footing width increased approx 15% from previous (similar to SP B15-1)

- Wall Cost = \$17.00/SQFT (2009 CCD)
- Footing Cost = \$600/CY (2009 CCD)
- Miscellaneous Costs = 10% of Wall & Footing Costs
- Contingencies = 10% of all Construction items
- Support Costs = 20% of all Construction items